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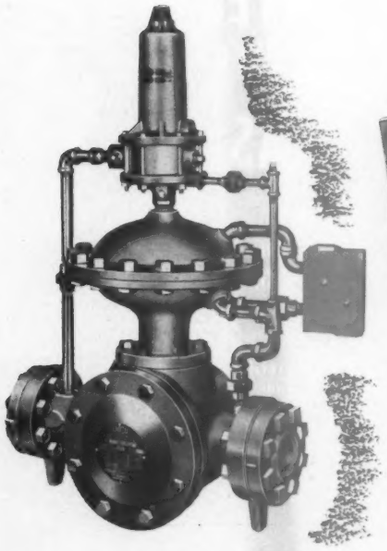

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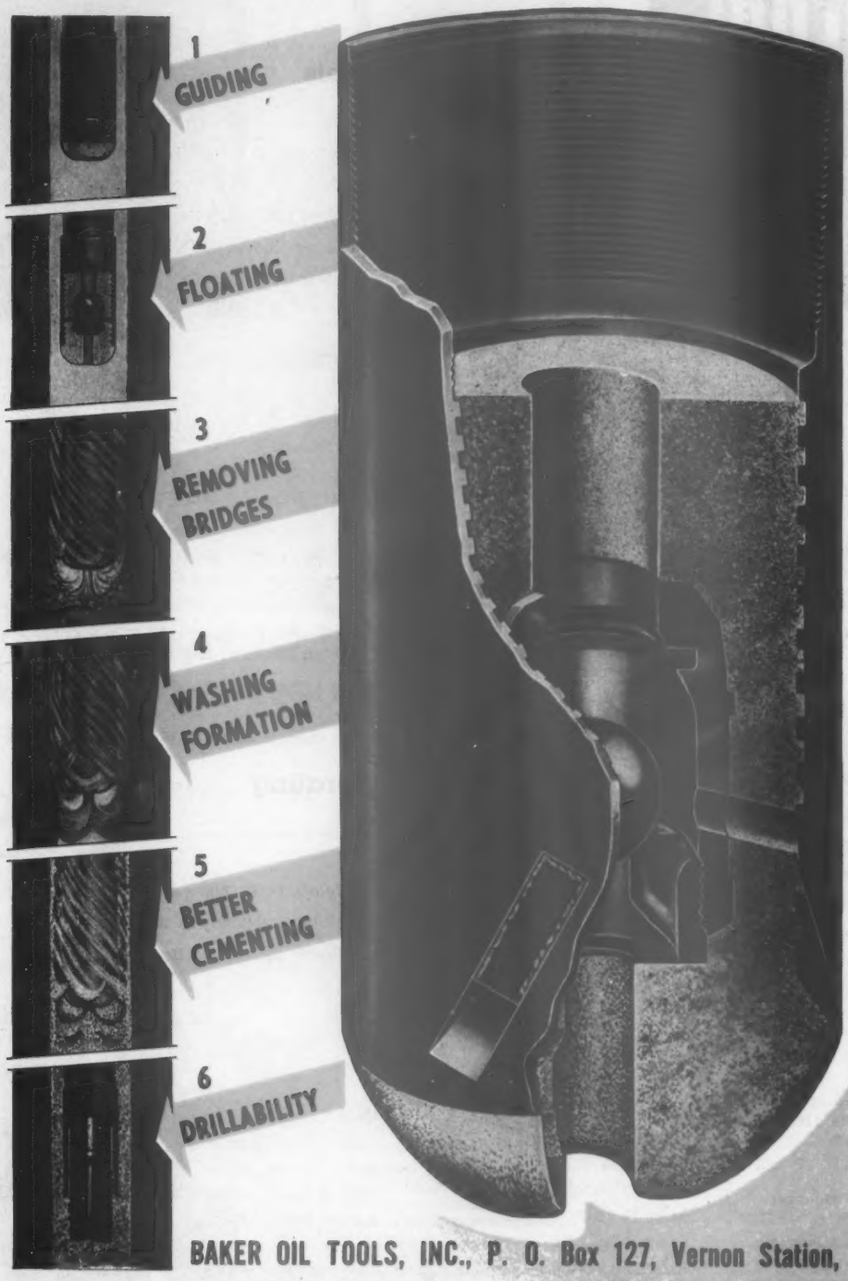

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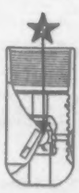

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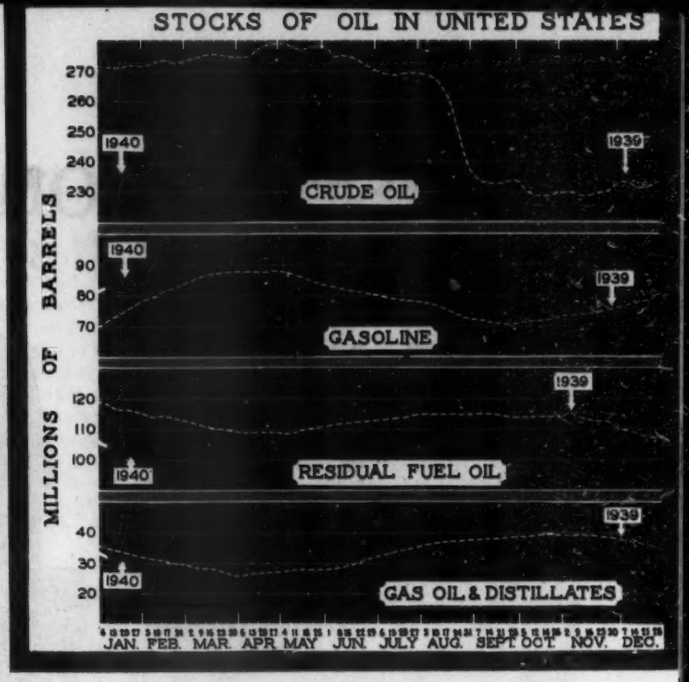

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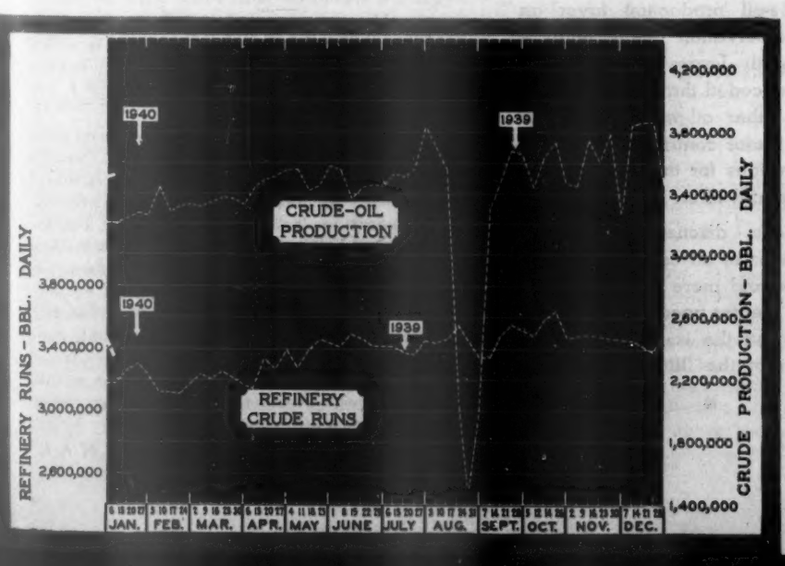
Seminole fields	38,875	.....	.....	39,525
Remainder of state	292,125	.....	.....	292,675
Total Oklahoma	438,750	433,900	433,900	424,400
East Texas	394,547	.....	.....	394,379
West Texas	240,798	.....	.....	227,140
North Central Texas	110,600	.....	.....	103,218
Texas Panhandle	87,800	.....	.....	73,598
East Central Texas	81,746	.....	.....	81,591
Gulf Coast Texas	343,746	.....	.....	338,277
Southwest Texas	87,648	.....	.....	87,682
Total Texas	1,346,885	1,411,000	1,376,320	1,305,885
North Louisiana	66,730	.....	.....	68,225
Gulf Coast Louisiana	202,297	.....	.....	198,850
Total Louisiana	269,027	254,200	268,192	267,075
California	597,250	593,900	599,000	602,250
Kansas	166,400	160,600	160,000	178,600
Arkansas	69,455	59,700	70,000	70,650
Eastern fields	106,700	100,700	.....	104,100
Illinois	329,604	314,800	.....	332,572
Michigan	68,143	61,000	.....	67,298
New Mexico	110,420	101,900	101,900	110,450
Rocky Mountain area	84,480	78,000	.....	87,070
Total United States	3,587,114	3,569,700	.....	3,550,350



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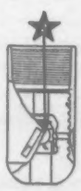

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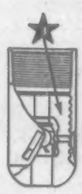

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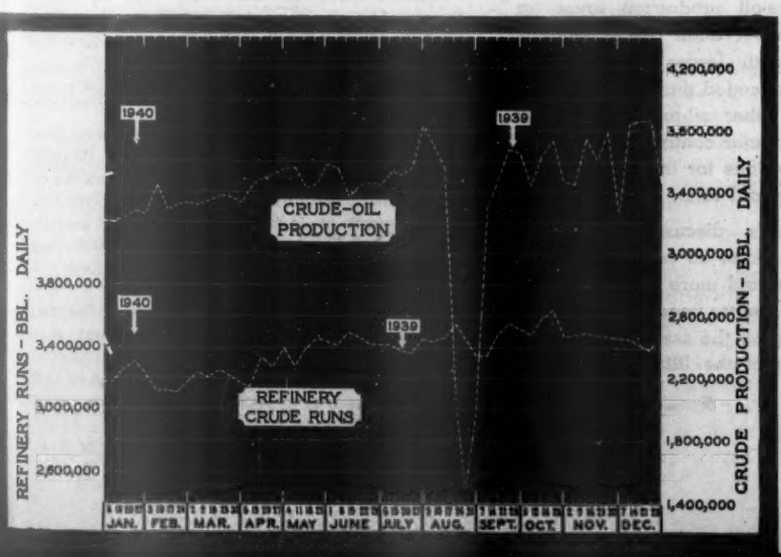

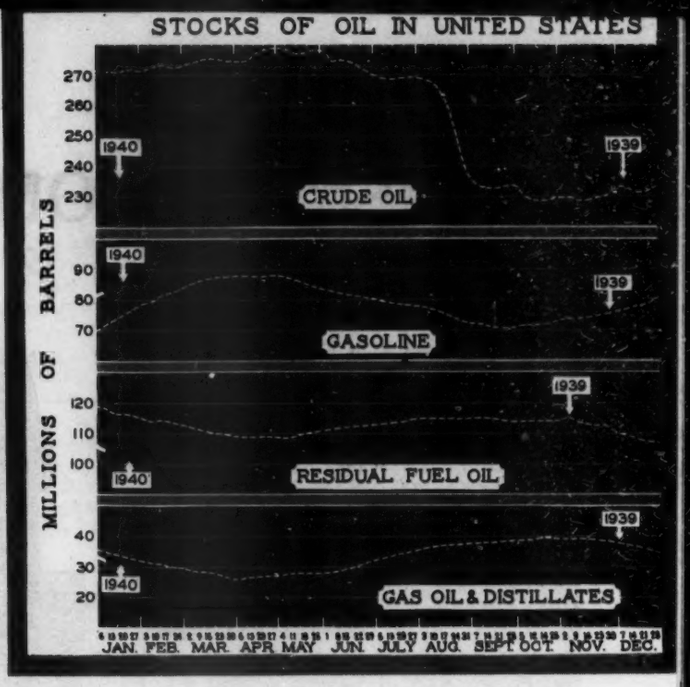

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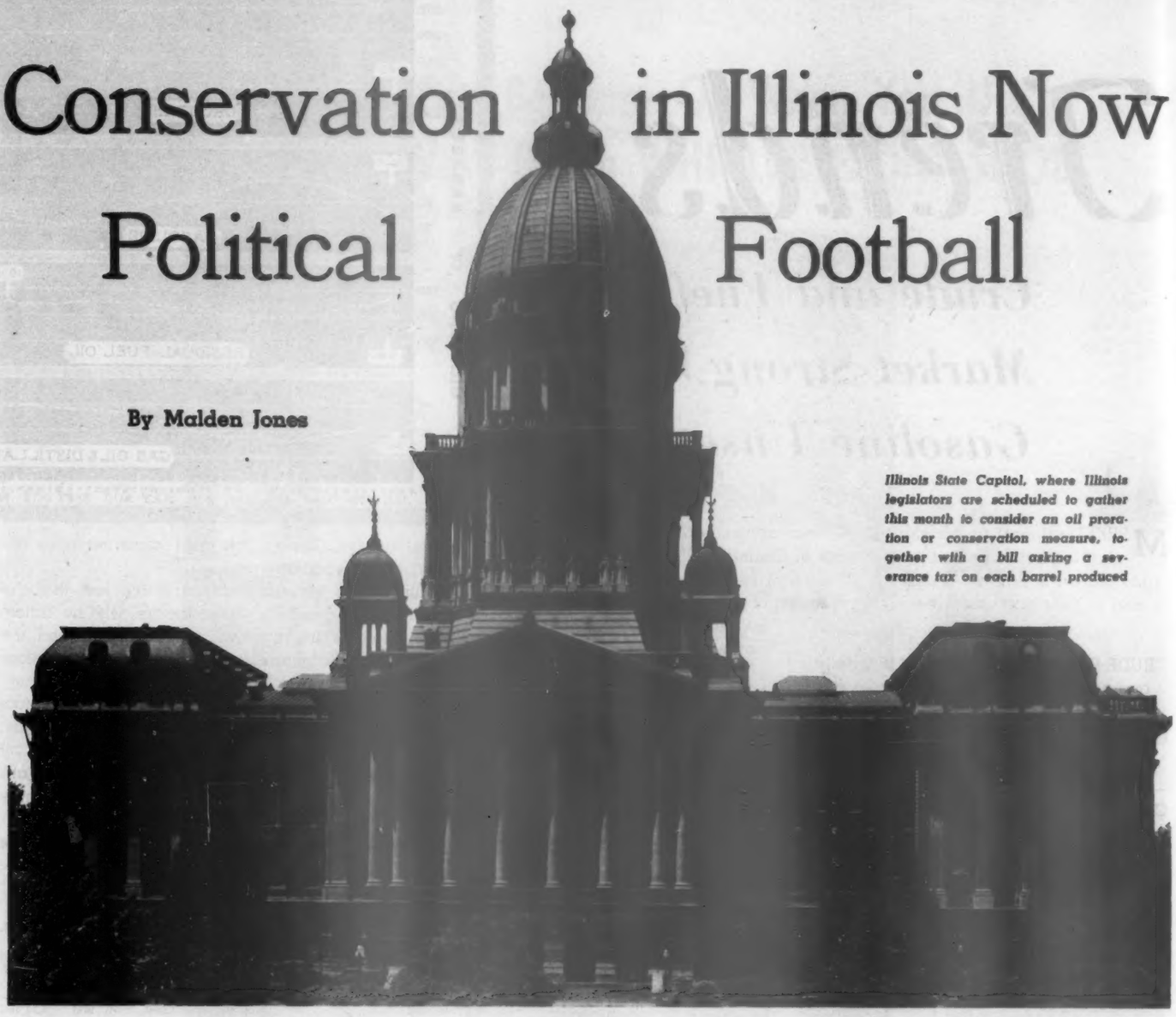
Conservation in Illinois Now Political Football

By Malden Jones



Illinois State Capitol, where Illinois legislators are scheduled to gather this month to consider an oil proration or conservation measure, together with a bill asking a severance tax on each barrel produced

FOR the first time in the history of the state, oil has become a dominant political and legislative issue in Illinois.

When the sixty-first General Assembly convened in January 1938, development in newly explored southern-basin fields had been under way slightly more than a year and a half, and daily production was averaging about 60,000 bbl. During the past 24 months production has soared to an average daily yield of 330,000 bbl. with producing wells in 16 south and south-central counties. In addition, thousands of acres have been leased in more than 45 other counties.

The subsequent and rapid ascendancy of the state in 3 years to a position of critical importance in the nation's oil picture automatically has placed petroleum in the forefront as a governmental problem.

As this summary and forecast is being written, Gov. Henry Horner is slated to call a special session of the state legislature some time this month, certainly not later than January 16. Despite scattered opinion from isolated sources, it is now a foregone conclusion he will include an oil proration or conservation measure in the session call, together with a bill asking a severance tax on each barrel produced in the state.

His latest public statement on the subject of oil was made in a press conference on December 19. At that time he mentioned two subjects—old-age pensions and an oil bill. The former would increase old-age payments from $30 to $40 a month and the latter would provide state control of oil production.

The governor then said he was preparing a bill calling for conservation of Illinois oil "in good shape to submit to the legislature."

"In two weeks," he said, "allowing for the holidays, we will have all the kinks out of it," adding that the oil men who have discussed the measure with him "seem to favor it."

"I will submit a bill just to get it before the legislature," he declared. "I have emphasized that I want an honest bill and won't dictate what the legislature should do—that's one thing an executive should never attempt to do."

He said he had avoided reading oil bills of other states "to see if an honest man can get up an honest bill," adding jokingly, "that is, assuming I am honest."

Further proof of the governor's announced plan came on January 6 when Atty. Gen. John E. Cassidy admitted an administration control and tax measure had been submitted to his office for perusal. In a statement made to this correspondent, a member of the governor's staff expressed the conviction the measure "will be approved in some form before the session adjourns."

He said the executive and the administration felt the question "cannot be avoided, and sensible control is inevitable."

A detailed analysis of the entire situation at this time, however, reveals the measure may never

●

● What's the chance for a petroleum conservation act in Illinois this year?

● The Oil and Gas Journal asked Malden Jones, veteran newspaper writer at the Illinois capital, to answer that question and in this article he summarizes the situation as he sees it.

● Producers who have the bulk of the Illinois crude-oil production favor an adequate conservation act in what is now the fourth largest oil-producing state. It is conceded that an act similar to those in other oil-producing states would be a major contribution to satisfactory operations for the entire industry this year and later.

● The author's discussion indicates there is danger of oil conservation becoming more and more a political football, with a greater need than ever before of bringing the issues directly to the attention of the Illinois electorate.

●

reach the passage stage. Leaders of the industry concede approval of a "moderate and acceptable" severance tax as a strong possibility, but the question of conservation of proration laws is highly doubtful—at least at a special session this year.

Sources close to the governor have declared the executive desires a 5 per cent tax, but the administration will meet bitter and uniform opposition to this proposal from both independent and major operators. Oil-company officials have openly stated they will be satisfied with a 3 per cent tax, but that a higher figure is not justified.

Governor Horner, according to a member of his staff, believes the 5 per cent request is warranted because of proximity of the state's producing fields to market and refinery centers, in comparison with oil drawn from distant Mid-Continent areas. He is also reported to favor the increase because "Illinois

If Democratic opposition comes to the effort to enlist Illinois among the conservation states, it is believed that it will follow the leadership of Lieut. Gov. John Stelle (below) of McLeansboro, whose county of Hamilton is now the scene of outpost tests

Democratic Gov. Henry Horner, of Illinois, (above) who has announced himself in favor of an oil-conservation measure. At the left is Hugh W. Cross, Republican, speaker of the Illinois House of Representatives, who favors "intelligent and fair control of the oil industry," but believes that it should not be considered in the forthcoming special session of Illinois' Legislature

oil is of exceedingly higher quality" than oil piped from Texas and Oklahoma.

While the governor has boldly announced his plans, in sincere fashion, battle lines have been forming all over the state in a controversy of momentous proportions. Five separate organizations are conducting varied campaigns, both for and against proration. In recent months growing importance of petroleum as a cardinal Illinois resource has been reflected in published statements of state officials, editorial comment, campaign pronouncements of political candidates, and opinions of persons prominent in the business world.

If conservation legislation is defeated or, at the last minute, is not considered at all in the forthcoming special legislative session, it will be for a number of reasons. Chief among them will be:

1. Republicans of both houses will oppose such legislation as a matter of party policy. The party drew up a plank in its 1938 state platform confirming opposition to proration or conservation legislation. Their opposition will center on the party's general antipathy for laws smacking of "regimentation" of anything or anybody, especially business. As a result, they will oppose proration proposals, although regulatory legislation might meet with their approval.

The state administration is Democratic, but since 1938 the house has been controlled by Republicans under the leadership of Speaker Hugh W. Cross, of Jerseyville. There are now 150 members in the house, three having died since the regular session. Republicans have 78 members and the Democrats 72, thus holding power by a majority of six votes. The senate has 51 members, one of whom died since the last regular session. In the upper chamber, however, the Democrats hold the balance of power with 30 members against 20 Republicans.

Speaker Cross is regarded as favoring "intelligent and fair control of the oil industry," but believes the question is of such grave importance that the subject should not be made a part of the special-session call. "There would not be time enough in a special session," he told this correspondent, "to give this important matter the kind of consideration it should have. Any hurried legislation would only impose a hardship on the industry in this state."

Professing strong support of the independent operator, Mr. Cross added: "I do not favor legislation that will work an unfair advantage to Illinois landowners, royalty owners, and persons interested as independent operators in the state's petroleum industry." Further, Speaker Cross declared he was absolutely opposed to a blanket delegation of powers over the oil industry to any commission.

Mr. Cross also has an eye on his political future, as he has declared himself as a candidate for the lieutenant-governorship in the April primary election.

Of three avowed Republican gubernatorial candidates, two are outspoken in opposition to proration legislation and one is reportedly in favor of some measure of control. Former state Rep. Richard J. Lyons, of Libertyville, in the extreme north section of the state, has been highly vocal in his opposition. Mr. Lyons was the party's nominee for United States senator in 1938. He was defeated by Sen. Scott W. Lucas, of Havana. State Sen. Earl B. Searcy, of Springfield, former minority leader in the upper house, has conducted frequent personal excursions through the basin fields as a member of the state Budgetary Commission. He says: "I will strongly oppose consideration of proration or conservation proposals at the special legislative session. Development should be continued, and the issue should not be considered, at least until the regular legislative session in 1941." Dwight W. Green, of Chicago, who distinguished himself as a federal prosecutor in that city, has never issued a statement on the question, but his followers intimate he favors "fair-minded control."

It is significant to note that members of the Republican State Central Committee recently made "off the record" statements that proration will "put the November election in the bag."

2. Despite strong patronage ties, certain Democratic members in the oil basin now regard opposition to proration or control as "political suicide." Naturally, no accurate estimate of wavering members could be made or even suggested at this time in view of the exigencies of legislative behavior. Yet there are a number of straws in the wind. Democratic leaders do not question Governor Horner's sincerity in presenting the measure and, contrary to Republican hopes, there is no "factional difference" in the party over the oil question.

If opposition does come from the Democratic camp, it will follow the leadership of Lieut. Gov. John Stelle, of McLeansboro, whose county of Hamilton is now the scene of outpost tests. And if Mr. Stelle opposes the measure, or any phase of the governor's program, he says it will be in a friendly spirit. Stelle is regarded by newsmen and representatives of the oil industry as the most actively interested of all state officials in the subject of petroleum. By virtue of his lifetime residence in the basin area, he owns a far greater personal interest in outcome of the current question than any other state officer. He has a better working knowledge of the mechanics of the industry from field operations to marketing than any member of the

(Continued on Page 22)

SPARKS . . . FROM THE NEWS

INTERNATIONALIST: So far, Secretary of State Hull has had ready and convincing answer to critics who have challenged his trade-agreement policy. Oil men wish he were as satisfying in the matter of expropriation.

FIFTH: Clay County, Texas, about whose subsurface geology little is known as yet, now has five new deep, lower Pennsylvanian oil pools which have been opened during the past 9 months. The latest wildcat flowed over the derrick.

BLUE RIBBON LOST: Mid-Continent refiners, who in the first 11 months of 1939 reduced their gasoline stocks instead of adding to them, have gone the way of the crowd. Their stocks increased 8 per cent in December, while total stocks rose 6 per cent.

ENCOURAGING: The most encouraging news of the new year is the indication that the Texas Railroad Commission will face the problem of the marginal well and return to uniform daily allowable, minus holidays, with production to be kept within the estimated demand.

COLD AND HOT: Below-zero temperatures did not prevent the northern Missouri wildcat play from getting hot early this week when a Schuyler County test began bailing oil in increasing quantities, and as a result operators were rechecking their holdings in the north-central counties.

MIXED: A sales manager with more gasoline on hand than he has outlets for suspects that refiners got their January 4 and July 4 demand estimates mixed.

WEATHER NOTE: Cold feet are not the only thing produced by the current freezing temperatures. The strongest light fuel-oil market in years is reported in the making.

NEW OIL CITY: Until the Mississippi oil boom, only two states, Louisiana and Pennsylvania, had post offices named Oil City. Now the Magnolia State has staked a claim on the name.

SYNTHETIC: Germany, it is said, will expand its production of synthetic motor fuel to a hitherto undreamed-of figure during 1940, if the war continues. Blocked imports are responsible.

ILLINOIS: New theme song of the oil states might well be "Illinois, the eyes of Texas (Oklahoma, Louisiana, Kansas et al) are upon you," as that recalcitrant state ponders whether or no to join the ranks of the conservationists.

OMENS: Kansas producers look upon construction of a pipe line to the rich Bemis district, a 5,000-bbl. increase in crude requirements of a Kansas City refinery, and completion of a refinery at Phillipsburg as omens of the increased crude market for which they have been yearning.

WATER DISPOSAL: *View showing disposal of salt water on west side of East Texas field where water represents one-third of total output*

To Restore Texas to Full 7-Day Basis in February Order

By NEIL WILLIAMS

Jerry Sadler, member Texas Railroad Commission, avers shutdown days will be abolished

AUSTIN, Tex., Jan. 8.—Unless something unexpected develops before then to alter plans, all Texas production will be restored to a full 7-day basis February 1, Jerry Sadler, member of the Railroad Commission, informed the Oil and Gas Journal.

Shutdown days definitely will be abolished, and allowable schedules of affected fields will be reduced accordingly, he said.

While Mr. Sadler spoke for himself, it was intimated that all members of the commission, who previously have expressed views against the production shutdown, were in accord on the decision to return to 7 days' production per week, beginning next month.

Abolition of shutdown days and restoration of 7-day production necessarily will mean cutting production of many wells in certain fields, particularly East Texas, below the minimum prescribed for marginal wells under the state's marginal-well statute, Mr. Sadler pointed out, but sooner or later, he said, there is going to have to be a showdown on the marginal-well question, and it might as well be now.

Texas production definitely will be kept within the Bureau of Mines estimates of market demand, as it should be, Mr. Sadler assured. If, with elimination of shutdowns, adherence to marginal production minimums would result in production in excess of field allocations set to keep the state's total output within the Bureau of Mines estimates, marginal well restrictions will be disregarded.

Hearing Next Week

Although a statewide proration hearing is scheduled for January 18, it is not expected anything will come up that will change the plans of the Railroad Commission. It is known that within the last several months opposition to the production shutdowns has increased. Most oil companies and operators are believed to favor return to the 7-day basis of proration.

Mr. Sadler said he could not foretell the consequences of such action, but he ventured an opinion that the marginal-well statute on a showdown would not stand up in an emergency as now exists. He admitted the marginal-well statute is the most disturbing factor in the entire picture, and that interpretation of its provisions is open to question, but said he and the commission expected to rely on opinions that the provisions were not intended to apply in the present case.

To what extent it would be necessary to cut allowables, or how the allowable would be allocated or work out under the 7-day basis of production, Mr. Sadler was not prepared to state. This will be determined following completion of a survey of production conditions in all fields in the state now being made by Railroad Commission engineers under the direction of John Taylor, chief supervisor of the Oil and Gas Division, and Dr. F. V. L. Patton, chief engineer.

East Texas constitutes the biggest problem, and possibly will be affected most by the return of 7 days' production. It has been indicated that for conservation and prevention of waste, production of this field must be restricted to about 435,000 to 440,000 bbl. daily. This has been effected by the shutdowns, although under the present basis of allocations the daily allowable figures out above 690,000 bbl., below which figure it cannot be cut, considering the large number of wells, without cutting production of individual wells substantially below the already low-marginal allowance of 20 bbl. per day.

Outside of East Texas, it is believed there are not many fields in which it would be necessary to cut the daily allowable of individual wells much, if any, below the marginal allowance to offset the added production to be occasioned by lifting the shutdowns. Most of those fields are in Southwest and West Texas. It is estimated that the present total allowable for the state lacks less than 100,000 bbl. of being sufficient to take care of all fields, except East Texas, within the marginal allowances.

There already is about 220,000 bbl. of production in the state that will be little affected by lifting of the shutdowns. This is the production of fields and wells that now are on a 7-day producing basis, either by reason of out-and-out exemption or a distribution of reduced allowable over the 7-day period, occasioned by conditions in the respective fields or wells that have made complete shutdowns harmful.

A plan has been proposed within the commission whereby it still may be possible to reduce well allowables below marginal minimums without conflicting with the statute. By the plan, production would be allocated to wells without regard to marginal minimums, with provision that wells coming within the classification of marginal wells would be permitted to produce the additional oil up to the marginal allowance. Operators, however, would be required to provide complete proof by such evidence as daily production gages, that such a well comes under the marginal classification. As the allocation in most instances probably would not be many barrels below the marginal allowance, most operators of such wells probably would prefer to accept the allocation rather than go to the extra trouble and cost of providing the daily production gages, or other proof of a well's marginal status.

Producing Conditions Studied

In the engineering survey now being made of all fields, producing conditions are being studied thoroughly, and data, such as number of wells flowing, number of wells pumping, wells making water, and production, are being compiled. Present proration schedules are being gone over and checked against the conditions in the field. New proration schedules for February are expected to be based largely on the information gained.

Total scheduled daily allowable for the state, effective January 6, the latest report available by the Railroad Commission, was 2,216,310 bbl. This would have been the allowable production had there been no shutdowns. The average net daily allowable for the same day, considering the shutdowns of the week, was 1,388,969 bbl.. The latter was 22,031 bbl. under the Bureau of Mines estimate of market demand. Total number of producing wells in the state, according to the same report, was 90,443.

Mr. Sadler blamed the continued rapid increase in the number of producing wells in the state for the present predicament in which the Railroad Commission finds itself. He said that, despite the fact the commission had issued 1,569 fewer drilling permits in 1939 than in 1938, nearly 6,700 new wells were completed, and he expected a bigger increase during 1940. He pointed out that the reduction in permits was due to a tightening up on the part of the commission in granting permits. Applications for permits during 1939 far exceeded those of 1938.

Clay County Geology Still Little Known

By R. MARNE SANFORD

Notwithstanding the fact that this Texas county now has five new deep-test fields, knowledge of its subsurface geology is still very limited. The entire county is undergoing intense exploration and drilling, as new discoveries continue to command interest in this active region

Continental Oil Co., Superior Oil Co. and A. R. Dillard's No. 1 O. O. Ross, latest new deep-pool opener for Clay County. Official gage has not yet been reported. Oil in the pits may be seen in the foreground. The well is estimated as high as 2,000 bbl. daily

WICHITA FALLS, Tex., Jan. 8.—Flow over the derrick by Shell Oil Co., Inc.'s No. 1 Henderson, wildcat in southwestern Clay County, North Texas, marked the opening of that area's fifth new deep, lower Pennsylvanian oil pool within 9 months. The entire county is undergoing the most intense lease, exploration, and deep drilling campaign it has ever experienced.

Despite the drilling of some 30 deep exploratory holes through the county during the past 1½ years, comparatively little is yet known of the subsurface geology. A large structural anticline, some 16 miles long and about 5 miles wide, has been mapped by both geophysical and soil surveys. Its axis lies in a north-south direction across the southwestern part of the county and is the potential source of several pools, their production being dependent upon secondary structural features on, or along, the flanks of the large anticline. Production in the five pools already opened is from the Strawn and Bend series of lower Pennsylvanian age rocks; the production depths ranging from 3,400 to 5,400 ft.

Newest pool opener for the county is Shell Oil Co., Inc.'s No. 1 H. Henderson estate, Block 2605, T.E.&L. Survey, in the extreme southwest corner of the county and approximately 3 miles from the Jack-Archer county line. The wildcat showed 2,700 ft. of oil in 20 minutes on drill-stem test in a Strawn sand from 3,419 to 3,432 ft. While drill pipe was being pulled the well kicked off to flow over the derrick. The company plans to drill about 200 ft. deeper and plug back for completion. This pool opener was located on a structure mapped by seismograph, Shell holding about 2,000 acres around the discovery.

Another recent discovery is Continental Oil Co. and others' No. 1 O. O. Ross, about 10 miles west and slightly south of Henrietta. It is in the southwestern part of the William Walker Survey, Abstract 703. The well was brought in 3 weeks ago for a gage of 1,136 bbl. of oil daily, production being from the Smithwick lime of the upper part of the Bend series. The saturated section was drilled from 5,342 to 5,400 ft. Nearest production from this stratum is Continental Oil Co.'s pair of small producers on the State Asylum lands in the southeastern part of Wichita County, south of Wichita Falls. Continental Oil Co., with Superior Oil Co. of California and A. R. Dillard of Wichita Falls, hold a joint block of approximately 2,400 acres around the discovery.

Clay County's new deep production now consists of the Ross pool, the Halsell field, about 4 miles to the southwest, the Burns pool, approximately 8 miles south of the Halsell field, the Kinder area, 5 miles west of the Burns pool, and the newest discovery, Shell Oil Co., Inc.'s No. 1 Henderson, about 10 miles south of the Burns pool. It is the general contention that development or activity in the county spread as a result of the northern Archer County Hull-Silk pool campaign which, itself, resulted from the opening of the deep production in K.M.A. in Wichita County. This is true only in part. In 1937 and at the time K.M.A. was still in its younger stages, L. T. (Bobby) Burns, Wichita Falls independent operator, drilled his No. 1 Sanzenbacher, in the L. N. Sparks Survey, Abstract 401, some 28 miles south of Henrietta. The test found oil showings from 3,901 to 3,907 ft.; however, due to salt water, the hole was plugged and abandoned in June, 1937.

Little other deep activity was seen until the summer of 1938 when L. T. Burns started his No. 1 Lyles and Walter Gant started his No. 1 Bryant Edwards. Burns second deep attempt was about 2½ miles southwest of his first and was in Lot 27, San Augustine University Survey. The test showed considerable oil from 4,038 to 4,048 ft., but was plugged and abandoned due to salt water. Walter Gant's deep test was about 6½ miles straight east of Henrietta and in the central part of the S. C. Beldon Survey, Abstract 12. Several shows were encountered in drilling to a total depth of 6,354 ft., but it was abandoned in December, 1938.

Early in 1939 L. T. Burns staked his No. 1 H. M. Browning, in Section 94, J. H. Belcher subdivision and about 7 miles due west of his abandoned No. 1 Lyles. The completion of this test in March marked the actual start of the county's intense wildcat drilling campaign. It was completed for a daily potential of 1,248 bbl., flowing, with an estimated 1,000,000 cu. ft. of gas. The potential was based on a flow of 312 bbl. of oil in 6 hours through ¾-in. tubing choke. Production was from the Strawn from 4,432 to 4,461 ft., total depth.

Burns moved one location east and completed his No. 2 Browning for 152 bbl. in 4 hours, or at the rate of 912 bbl. daily. At the same time Shell Oil Co., Inc. started its No. 1 Davis as a south offset to the discovery well. Indicating the lenticular condition of the sands in the Strawn series, Shell failed to encounter the discovery pay section and it was later abandoned after drilling several hundred feed below the Burns pool pay level.

Second deep pool was Bridwell Oil Co.'s No. 1 Furd Halsell, in Lot 16, W.C. R.R. Co. Survey, approximately eight miles north of the Burns field. It was completed for 158½ bbl. of oil in three hours,

SYSTEM	GROUP	FORMATION OR ZONE
Permian	Double-Mountain	Quartermaster Upper Castile Whitehorse Blaine San Angelo
	Clear Fork	
	Wichita	Anhydrite zone Brown Dolomite zone White Dolomite zone
Pennsylvanian	Cisco	Bunger Harpersville Thrifty Graham
	Canyon	Caddo Creek Brad Graford Palo Pinto
	Strawn	Mineral Wells Garner Millsaps Lake
	Bend	Smithwick Marble Falls Barnett
Ordovician	Ellenburger	Cotter Jefferson City Roubidoux Canconada ?

Type geological column for Clay County, south central part. No Permian is present in the extreme southern part of the county, therefore eliminating that system as a surface exposer. Insufficient tests have been drilled to accurately correlate the numerous limes and shales or to determine thickness of strata in different sections

or at the rate of 1,264 bbl. daily, flowing. Strawn pay was drilled from 4,754-93 ft. This pay section is a lower sand of the Strawn group than that opened at the Burns pool.

Closely following the opening of this second deep pool, wildcat tests were started in wide and scattered areas throughout the entire county and by the middle of the past summer some 10 deep wildcats were active.

Third new pool was opened late in the summer by Sinclair Prairie Oil Co. and Frabor Hodges at their No. 1 L. Kinder, about 5½ miles east of the Burns pool. It is in Lot 11, Clark & Plumb subdivision and was completed from the Strawn sand from 4,133 to 4,158 ft., plugged back from a total depth of 5,527 ft. where salt water was found. This pay section is different from either the Halsell or the Burns field pays, but is the same level as the small field opened 5½ miles northwest and in the extreme edge of Archer County. It is Adams Oil & Gas Co.'s No. 1 Moer, Lot 21, Clark & Plumb subdivision, completed in 1938 for a small producer from a plugged back depth of 4,141 ft.

Geology

The whole of Clay County embraces a wide and varying type of both surface and subsurface stratigraphy. The northern three-quarters of the county is blanketed by rocks of Permian age, while exposed at the surface over the southern quarter of the county are the Pennsylvanian rocks. It is assumed that at one time, prior to the processes of erosion, the entire county was covered by Permian strata which was, in turn, overlain by Cretaceous strata which was, in turn, overlain and eroded away, thereby exposing the present Permian and Pennsylvanian surfaces.

The contact of the Pennsylvanian and Permain rocks may be delineated by a diagonal line across the southern part of the county from Bellevue on the east, thence westward just north of the town of Joy, thence out of the county just south of the town of Windthorst on the Clay and Archer county line.

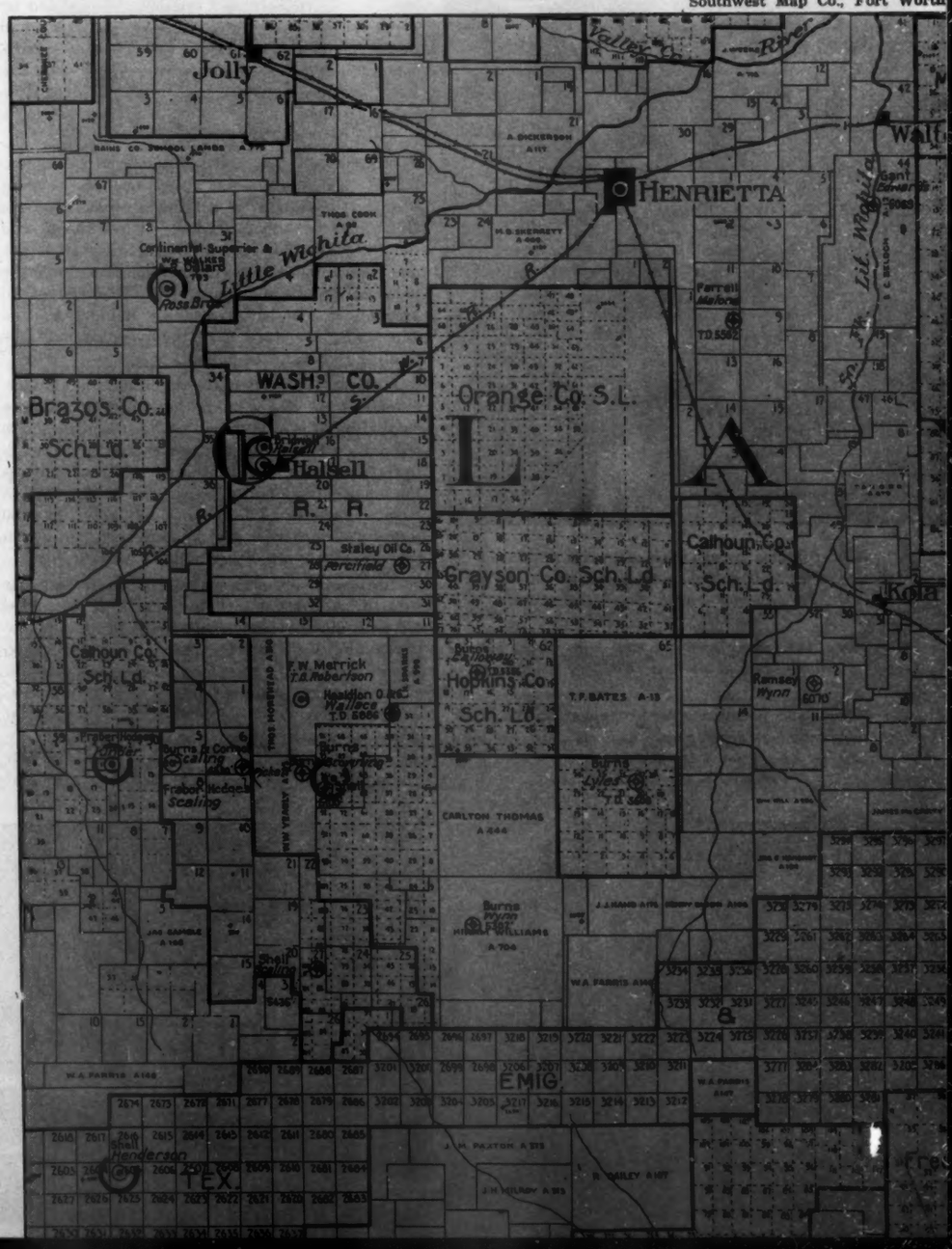
The county is situated between the northernmost reflection of the Bend arch of West Central Texas and the Red River uplift which is, in the main part, a buried mountain range extending eastward from Foard County along the Texas and Oklahoma border to northern Cooke County. The northern end of the Fort Worth syncline extends toward the central part of the county and marks the southern boundry of the Red River uplift and the northern boundary of the Bend arch. The Fort Worth syncline extends northwestward from Dallas and Tarrant counties, through Wise County and across the southwestern corner of Montague County. Thus contour lines drawn from subsurface elevations on the top of the Bend lime tend to show a general secondary dip of the formations to the south in the northern part of the county. Normal dip of the Pennsylvanian rocks is to the northwest and at the rate of about 50 ft. per mile. Due to the thousands of feet of strata eroded off the top of Clay County, deep-seated subsurface structural conditions, normally covered by thick overburdens, are relatively intensified on the surface of the county.

It is the general belief that the conditions for the accumulation of oil at the five deep fields are from either of three causes. First, the Strawn formations may be pinched out against the outlying edges of the Red River uplift. This would indicate the presence of several comparatively small and scattered fields throughout the southern part as well as the northern part of the county. Second, the structures may be secondary ones along the northern rim of the Fort Worth syncline. Such a condition would indicate a horseshoe arrangement of fields with the open face toward the south east. This is not entirely unlike the present outline of the five deep fields. Third, and most characteristic of Pennsylvanian production, the fields may be producing from lenticular or pinched-out sands and limes having little in common with the larger structural conditions of the county.

Well log correlation on top of the Bend lime at Ramsey Petroleum Co. and Youngblood & Foree's test, just southwest of Kola in the eastern part of the county, with Sinclair Prairie and Frabor Hodges' well in the western part of the county, suggests the presence of some form of structural condition between the two. Ramsey Petroleum Co.'s test, with an elevation of 953 ft., topped the Bend lime at 5,856 ft. or at subsea level depth of 4,912 ft. Sinclair Prairie Oil Co.'s well, with an elevation of 1,033 ft., topped the Bend at 5,445 ft. or a subsea level of 4,412 ft. A difference of 500 ft. exists between the top of the Bend lime in the two wells, the latter being the lower. Normal dip of the Pennsylvanian strata, excluding possibility of a secondary dip into the Fort Worth syncline, would place the Sinclair Prairie well some 400 ft. lower than the Ramsey Petroleum Co. test on top of the Bend lime. This 100 ft. of difference tends to indicate one of several conditions. First, being on the extreme northern rim of the Fort Worth syncline, normal dip northwestward from the Ramsey test would be more pronounced, thus accounting for the 100 ft. of difference between the two methods of calculating. Second, the Fort Worth syncline does not extend as far north as Clay County, therefore the Bend lime is not affected by it. The 100-ft. of difference is possibly, in this case caused by a secondary south dip off the Red River uplift on the north. Third, and generally accepted most probable explanation, is that there is present a series of local anticlines and synclines of a homoclinal nature throughout the southern part of the county, caused by the contact of the extreme southern edges of the Red River uplift and the extreme northern edges of the Bend arch. All three of these explanations indicate the absence of any basinal part of the Fort Worth syncline in the southern part of Clay County.

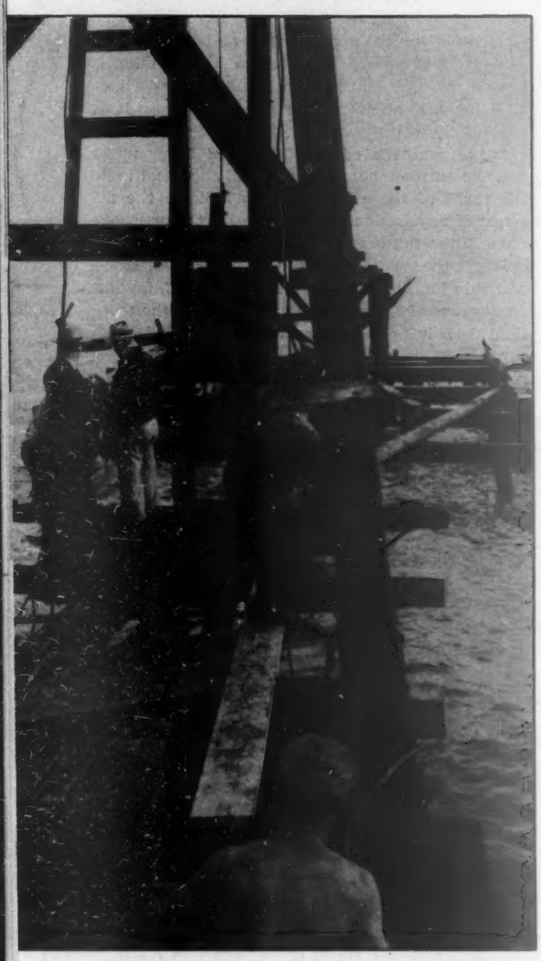
Due to the successive alternation of shales, sands, and thin limestones in all wildcats drilled, few accurate tops of formations were picked in the tests. Considerably more drilling must be carried on to furnish ample subsurface information for a complete picture of the structural conditions.

Southwest Map Co., Fort Worth



Map of the southern half of Clay County showing the development during the past 9 months. Some 21 deep tests have been drilled or are in process of drilling. Six of these tests have been completed for producers, four opening new pools while the remaining two were offsets to new discoveries

Difficulties in Offshore Drilling in Sabine Pass Prospect



Above: Driving piling for foundations for Merrimac Oil Co.'s No. 1 State on Sabine Pass prospect, off the shore of Jefferson County, Texas Gulf Coast

Below, left: Plank roadway laid down across marshy shore leading to Merrimac Oil Co.'s No. 1 State

Below, right: Roadway being built out to location. While sufficiently high above normal high tides, the road probably would not stand up during storms, making it inadequate for permanent use

By NEIL WILLIAMS

HOUSTON, Tex., Jan. 8.—Some of the many difficulties incidental to drilling offshore properties along the Gulf Coast are exemplified in the development project undertaken by Merrimac Oil Co. on the Sabine Pass prospect, Jefferson County, Texas. One adversity after another has been thrown in the path of the company, but after months of persevering efforts and forced delays these have been overcome; and with rigging up about completed, drilling of the first test should be started shortly.

The prospect is about 4 miles west and down the coast from Sabine Pass, the mouth of the Beaumont-Port Arthur Ship Channel. As outlined by geophysical findings, the structure, possibly a salt dome, lies largely offshore in the Gulf of Mexico, where Merrimac Oil Co. owns state water-bed leases totaling 2,000 acres, with control over additional acreage in a block that, with the 2,000 acres, totals 5,280 acres, all offshore.

Location for the test being started is approximately 300 ft. offshore, where one of the most complete assemblies of drilling equipment on the Gulf Coast is being provided. All equipment and facilities, including mud pits, tanks for water, fuel, and reserve mud, and various auxiliary units, are being set up at the location. Driving of piling and erection of adequate, seaworthy foundations and supporting structure have involved expenditures totaling thousands of dollars.

A plank roadway, built on piling foundations, extends from the well to the shore, and thence four-fifths of a mile inland across the marshes to the Sabine Pass-Galveston beach highway, providing the only access to the operations. This is the only place along the coast from Sabine Pass to beyond Galveston, a distance of more than 60 miles, where there is not a sandy beach on which it is possible to get directly to the water's edge.

This marsh shore is a major handcap to carrying on drilling at this point. As the Gulf at this place for long distances out from shore is too shallow (maximum depth at a half mile is only 4½ ft.) to permit approach of boats and barges large enough to handle heavy drilling equipment and materials, it is necessary to carry on operations from the land side. At the same time the marsh is unusually treacherous, consisting of boggy and shifting soil which builds up and washes out with the tides and occasional storms. It is all new land formed by sediment accretions deposited since, and as a result of the building of the Sabine pass jetties. With newly forming land, the shoreline here has receded southward as much as a quarter mile since 1870.

The present roadway is built of timbers on old piling laid flat across the marsh. While sufficiently high above normal high tides, it probably would not stand up during storms or with above-normal tides, making it inadequate for permanent use. With development of production that would justify the expenditure, a trestle road probably would be built. The marsh also has made it inadvisable to attempt to set up any equipment, such as tanks and mud pits, on shore. As piling would have been required on shore the same as out in the open water, it was considered more convenient to place everything as near the location as possible. Two 1,000-bbl. tanks, one for water and the other for fuel, have been set up at the highway at the edge of the marsh and lines strung along the roadway to the well.

Use Diesel-Powered Rig

A diesel-powered rig is being used, so only water for drilling-mud use and a little for engine-cooling purposes is needed. Water suitable for boiler use is not available, so that with a steam-powered rig, supplying of water would have been a difficult problem, necessitating a long haul. The rig, an assembly of large, heavy-duty equipment capable of going to at least 12,000 ft., is owned by Cartter-Rubsamen, San Antonio, who have contracted for the first well to a depth of 8,500 ft. An 136-ft. steel derrick has been provided. Plans call for the exercise of every precaution and employment of the most effective practices to insure a thorough test. In addition to generally used coring and logging methods, mud-analysis logging facilities, as well as a gas detector, will be utilized.

The layout of the foundation structures was planned to provide the most convenient assembly and hookup of the drilling units and facilities. Foundations and structure for the rig were designed to support any loads of equipment and pipe that might be occasioned in drilling to below 12,000 ft.

The block takes in 11 state-lease tracts (Nos. 68 to 78, inclusive), each 480 acres, a quarter mile wide and extending 3 miles from shore. As orig-

inally leased on high bid from the state, Bayou Oil Co. owned Tract 68; R. J. Wolf, Tract 69; I. E. Harwell and associates, Tracts 70, 71, 72, 75, and 76; J. A. Gooch, Tract 73; E. B. Germany, Tract 74; and Lake & Lewinsohn, Tracts 77 and 78 (now owned by Ed Landreth).

All these leases, representing ownership of independents, were awarded by the state land commissioner August 25, 1937, following competitive bidding. At the same time Humble Oil & Refining Co., Shell Oil Co., and Magnolia Petroleum Co., jointly, were the successful bidders on tracts on both sides of the block leased by the independents. Humble, Shell, and Magnolia previously had leased all shore leases bordering these tracts. So far, these companies have not contributed to the drilling of the well or to the block assembled by Merrimac Oil Co.

Drill Stem Stuck

Merrimac Oil Co. became directly interested in the block in June 1938 when it assumed a contract made by Sherman Nelson and Hantho-Nelson, Inc., with I. E. Harwell and associates for the drilling of an 8,000-ft. test on the latter's No. 72 tract, in return for which they were to be assigned upon completion of the well to contract depth all of Tract 72 and the east half of Tract 71. They were unable to complete their contract, being forced to abandon the test short of contract depth. This test, started January 10, 1938, was drilled to approximately 5,800 ft. (reached March 27), where drill stem stuck. Efforts to free the pipe were unsuccessful, and after recovery of about 1,800 ft. the hole was junked, leaving approximately 4,000 ft. of pipe in the hole.

Since assuming this contract, Merrimac Oil Co. has concerned itself with attempts to pool and unitize the interests of the lease ownerships held by the independents. In this it was realized that the difficulties, hazards, and costs involved in drilling and developing such properties, considering the large expenditures already made, would be almost prohibitive for any of the operators to assume separately, especially in view of the possibility of competitive drilling along the lines of the narrow lease tracts.

Bad Conditions Encountered

In assuming the Hantho-Nelson contract, Merrimac Oil Co. acquired control of rig and other equipment used by those contractors. This rig, however, was small, and, being out of condition, having been through several storms, was not considered adequate for the new test. It was moved out with considerable difficulty and cost, the difficulties being increased due to the washing out of the road during a storm, necessitating replacement of the road. Even then considerable bogging down was experienced before all the equipment was taken out.

The new test is 50 ft. east of the first hole, which still is making some gas despite the fact it has been cemented twice since Merrimac Oil Co. took it over. Although definite information is limited, the well is known to have had sands around 3,900 ft. that showed some oil and gas, and it was indicated as being "high" on structure, but condition of the hole after drilling to 5,800 ft., where drill stem stuck, was such that any attempts to complete that well as a producer would not be feasible. As soon as the new rig is set up and the pumps can be operated, the well will be killed and the hole plugged.

Definite history of this prospect dates to the fore part of this century, and evidence of its existence was observed years before. Attention first was drawn to it by a pronounced oil seep in the Gulf only a short distance away. In the earliest mariners' logs of record, note is made of this seep. Indications of a "high" also were recorded by the

Difficult conditions experienced by Merrimac Oil Co. in moving out first steam rig on Sabine Pass prospect, preparatory to moving in large diesel rig. Location of well is in Gulf of Mexico, visible in background

U. S. Geodetic Survey in a bulletin published in 1903. An account of the history of the prospect is given in a recent report on the area, portions of which follow:

"From early records of coastal-maritime logs, this area was well known to pilots and ship captains because of evidence of oil on the Gulf waters. During periods of storms and bad weather, it was often the case that ships would anchor in this spot because the presence of oil on the water served to calm the waves. The place became known to local mariners as 'The Old Oil Seep.'

Made Hurried Survey

"When oil was discovered on the Gulf Coast of Texas, at Spindletop, Sour Lake, Batson and Goose Creek, a hurried survey of the coastal area was made by the newly formed oil companies. Old records reveal that in 1912 Texas Co. drilled a well on the B. F. Howard Survey, approximately 1 mile north of the indicated top closure of this structure. This well was drilled to around 1,300 ft., and although logs of wells drilled at this time have proven to be unreliable, it is noted that the well was abandoned when a gas sand encountered at that depth blew the drill stem out of the hole and destroyed the drilling equipment. Two wells were drilled in the John McGaffey Survey on the old Broussard homestead, about 1¾ miles northeast of this structure, but both proved unsuccessful. They reached an approximate depth of 2,600 ft. before abandoning.

"These wells were drilled by independents over 20 years ago and give little pertinent data to the area.

"With the introduction of the use of geophysical instruments in locating geological anomalies and 'structure,' this area was worked, using refraction seismograph by Humble Oil & Refining Co. Later, it was worked with torsion-balance instruments by the same company. In the spring of 1936, a detailed reflection-seismograph survey was started by the Humble company, and the entire prospect and immediate area was thoroughly explored. This survey was completed in September 1936.

"On the strengtn of the favorable indications shown by this survey, Humble, Shell and Magnolia leased the entire area on land available for lease. The division of lease ownership is reflected by the records at the county clerk's office, which reveals that Humble and Shell own the lease on all the McFaddin ranch, a portion of the ranch being the surveys adjoining this 'structure.' The B. V. Howard Survey and all surveys east to Sabine Pass are owned by Humble and Magnolia. Through information definitely known by this writer, the agreements between the three companies regarding these leases is as follows: Humble and Magnolia agreed to participate equally in their leases, in exploration work, Humble doing the actual field work, supplying the necessary physical equipment, and Magnolia to pay for the cost of the survey. As regards Humble and Shell, the same agreement was made, only Shell did the physical work, and Humble paid for the cost of the survey. The information and records of these two surveys was interchanged and studied by the geophysical department of Humble. Due to the fact that the 'structure' concerned in this report was reflected and outlined in both surveys made, it is interesting to note that they were alike in respect to a real extent and closure."

KANSAS

THE KANSAS CORPORATION COMMISSION on January 3 fixed Kansas' January crude-oil allowable at 160,600 bbl. a day, the same as the federal Bureau of Mines estimate of January market demand, but 7,400 bbl. under the December allowable.

Theo A. Morgan, conservation director, said allowable schedules for the month would be mailed to operators.

The commission estimates the potential daily production of the prorated fields of the state at 4,000,000 bbl. daily, which is largely theoretical. The facilities available for marketing the state's production are capable of transporting 215,000 bbl. per day.

Temporary restraining orders have been issued by the District Court of Cowley County and the United States District Court for the district of Kansas, restraining the commission from restricting the production of crude oil below the respective amounts specified therein. The orders are applicable to the Hittle, Frog Hollow, weathered Arbuckle, weathered Lansing, Kansas City, and weathered Mississippi pools of Cowley County and the Otis pool of Rush and Barton counties. In order to comply with the terms of the restraining orders, the commission is restricting the production of crude in each such pool to the minimum amount specified in the restraining order. However, the commission denies that the District Court of Cowley County had or has any jurisdiction to make the restraining orders issued by it. The commission also denies that the restraining orders issued by the federal court for the Hittle and Otis pools were lawfully issued. "It is hereby declared," says the commission's report, "that if any or all of said restraining orders are ultimately declared to be illegal or void, or otherwise dissolved, the commission will charge that portion of the production of each pool and well which is in excess of the normal pool allocation as heretofore and herein made against said pools and wells as overages and each and all of the same will be required to make up said overages from current allowables. That the allocations made under said restraining orders by the courts are not and shall not be considered to be the voluntary acts of the commission and it would, unless restrained, allocate to each of the said pools their normal allocation under the formula heretofore adopted to allocate production between pools to satisfy the daily consumptive demand. That, in view of the fact that the commission is restrained not only from enforcing its proration orders in the said pools, but from making orders restricting the amount of production below the levels established by the courts, it is impossible for the commission at this time to allocate production between such pools in the manner which it believes is fair and reasonable."

JANUARY GAS ALLOWABLES of 1,054,000,000 cu. ft. for the Otis field of Rush and Barton counties; 749,000,000 cu. ft. for the Cunningham field of Pratt and Kingman counties, and 279,000,000 cu. ft. for the Lyons field of Rice County were announced by Theo A. Morgan, conservation director for the state Corporation Commission.

TEXAS

THE STATE-WIDE OIL PRORATION HEARING which the Railroad Commission has called for January 18 is expected to be devoted mainly to the unfinished problem of proration in the East Texas field and how Texas fields may be restored to a 7-day production week. At the December state-wide hearing commission officials said the January order would be the last issued in which production holidays were utilized to hold production below the Bureau of Mines allotments, although production would continue to be held under the bureau's figures on a 7-day basis.

At the first of the year the state's total basic allowable was 2,223,000 bbl., but through application of 13 shutdown days during January the commission was enabled to hold average daily production below the Bureau of Mines figure of 1,438,100 bbl. To spread this allowable over a 7-day week would result in approximately a one-third cut in the daily allowables. Since the basic allowable of many wells is just slightly in excess of their marginal limit, a one-third reduction would place their daily production below the marginal. Many fields, however, are now producing on a 7-day basis in exemption to the production holidays. Additional reductions could be made in the basic total by cutting the allowable carried on the proration schedule to the quantity wells are actually capable of making; all of which will aid the commission in eliminating holidays entirely, or at least to just Sundays.

THE PROBLEM OF SATISFYING OPERATORS on the west side of the East Texas field, which was given much discussion at the December hearing, likewise is expected to be again brought up. Operators of leases on the west side of the field apparently are becoming more conscious of their losses through migration of oil to leases situated higher on structure and are increasing their complaints to the present method of proration, claiming that it prevents them from recovering their fair share of oil.

POSSIBLY FORERUNNING ANOTHER ATTACK on the method of allocating production in the East Texas field, Rowan & Nichols Oil Co., of Fort Worth, last week filed a petition with the Railroad Commission asking for an adjustment in the allowable of its Todd-A lease. The petition made no specific recommendation, but in the event the commission denies the request it is possible the case may be taken into federal court. The company's Todd-B lease is being produced in exception to the current East Texas order as a result of the company successfully instituting federal-court litigation against the straight potential method of allocation in force at the time court proceedings were started in the spring of 1939. Since the Todd-B-lease case was decided, the commission has revised its East Texas order to include an acreage factor. Thus if a suit were filed as a result of the Todd-A-lease petition, it would involve an attack on the new order.

THE RAILROAD COMMISSION last week set dates for a number of hearings on petitions for higher allowables and revisions in field rules. Among these were: Hearing on K.M.A. field on January 11 for purpose of hearing testimony on the higher allowables granted river-bed wells in revised field rules issued late in December 1939; January 11, hearing on Bartlett Petroleum Corp's No. 1 J. G. Corbett, in S.P.R.R. Survey of Stephens County, to determine whether the well should be exempt from shutdowns; January 12, application for allowable increase in the Dirk's field of Bee County and the Manvel field of Brazoria County; on January 12, hearing on classification of gas wells in the Hardin field of Liberty County; January 15, hearing on petition for exemption of the Midway field, San Patricio County, from shutdowns; January 15, on application of Texas Co. for disposing of water in the East Texas field; and, on January 15, hearing on application for allowable increase in the New Anchor field of Brazoria County.

As a result of hearings on the North and South Government Wells fields, Withers and Humble fields, in which Texas Co. asked for allowable increases, North and South Government Wells each was cut back from a per-well allowable of 22 bbl. to 20 bbl., and then exempted from the shutdowns with an estimated increase in net allowable of 4,415 bbl. for the two fields. Magnet and Withers were increased by a total of 2,250 bbl. to the new top allowables of 2,017 and 10,003 bbl., respectively. Humble was exempted from the shutdowns, with the increase estimated at 1,528 bbl. per day.

STATE CAPITALS

OKLAHOMA

TWENTY-ACRE WELL SPACING for the Wilzetta pool of Lincoln County, Oklahoma, was recommended to the state Corporation Commission by W. J. Armstrong, chief conservation officer, who acted as referee in hearing petition of C. L. McMahon, Inc., of Tulsa. Area to be included in the order includes the NW and NE and N½ SW and NW SE of Section 2, and E½ NE and NE SE of Section 3-12n-5e, and the E½ SE of Section 34, and SE¼ and SW¼ of Section 35-13-15e.

HEARING HAS BEEN SET for January 16 on petition of J. A. Ligon and Irvin L. Wilson for 10-acre well spacing in the Wewoka extension area of Seminole County. Order would cover the NE¼ and SE¼ of Section 23, and NE¼ and NW¼ of Section 25, and all of Section 25-8n-7e.

Recently completed wells in the area are producing from the Cromwell sand, while there are three wells producing from the Gilcrease-sand zone.

ILLINOIS

REP. ED MARVEL, of Edinburg, went on record against a proposed tax of 5 cents per barrel on crude oil produced in Illinois at a meeting of oil men at Centralia last week. He called the proposed tax a discrimination against the Illinois oil industry.

Such a tax would discriminate against southern Illinois because petroleum imported by pipe line from other states is not subject to a similar tax, he told the Illinois Independent Producers Equity Association.

Joe King of Effingham, president of the Kingwood Oil Co., said he believed state production control would not be justifiable until the state's output reached 750,000 or 800,000 bbl. daily. The present production is about 335,000 bbl. daily.

Mr. King said the state's consumption was 160,000 bbl. daily and the consumption of the territory immediately adjacent to Illinois, a natural market, was 500,000 bbl.

CALIFORNIA

MAJOR AND INDEPENDENT oil companies in California told federal Judge Paul J. McCormick a few days ago that they intend to put up a vigorous fight to the finish on the Government's indictment charging them with conspiracy to raise and maintain gasoline prices in violation of the Sherman antitrust laws. Nine of the companies involved have entered not-guilty pleas and the remainder of the 36 companies and 2 trade associations asked for bills of particulars and announced intention of filing demurrers attacking, among other things, the validity of the indictment. Judge McCormick set February 13 for hearing on the demurrers and February 27 for the motion on the bill of particulars. The possible trial can not start until these matters are disposed of, so it may be months before any definite action can be taken. Not-guilty pleas have been entered by Exeter Oil Co., Fletcher Oil Co., General Petroleum Corp., Signal Oil Co., Norwalk Co., Shell Oil Co., Eagle Oil & Refining Co., Mohawk Petroleum Corp. and the Petrol Corp. Maximum penalty upon conviction would be a fine of $5,000. The indictment, returned late in 1939, was the climax of a long investigation instituted by the antitrust division of the attorney general's office.

ARKANSAS

THE ARKANSAS UTILITIES COMMISSION has expressed belief that natural gas distributed in the state should be produced from Arkansas gas wells if a supply at comparative rates were available. Thomas Fitzhugh, chairman of the commission has made this stand clear to companies distributing in the state. Most of the gas now consumed in Arkansas is moved in from Louisiana and Texas. The Magnolia field and other gas reserves may serve prospective realignment of state gas supply and distributing systems.

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

Taxes Vs. Profits

Those who have read the 1939 business reviews of the past 10 days must have been impressed with the accomplishments of industry in these trying times.

Faced with many new and old problems, industry nevertheless has gone forward in all directions. So far from folding up, as some of the politically minded have charged, it has taken advantage of every opportunity to strengthen its operating position and do more than its share in bringing about business recovery.

Consumers are being taken care of better as regards quality, service and price. Wage scales are higher than ever before, hours of employment reduced and working conditions improved.

All this, within reason, is sound and represents a continuance of the policy which accounts for the remarkable progress of American industry in this century.

But these same reviews also reflect developments which are disturbing. In all cases the tax burden has increased and, with rare exceptions, earnings are low or non-existent.

Industry has expanded and perfected its operations, has increased the buying power of employes and has given its customers more for their dollars, but, in the face of constantly mounting taxes, little is left for those who through common stock and similar investments have made the entire operation possible.

The oil industry, the nation's largest taxpayer, furnishes an excellent example of what this trend toward higher taxes means in lower net incomes.

Preliminary estimates place the tax bill of the industry for last year at $1,335,000,000, substantially greater than in previous years. The governmental taxing units obtained more from the industry than was received by the producers for finding and producing the industry's raw material.

This taxation totaled four times what the refinery operator and natural-gasoline manufacturer were allotted for manufacturing the raw material into finished products.

Individual units in the industry have pointed out from time to time that their tax payments were from two to three times as great as payments to employes.

Unreasonable features of these taxes cited by the industry have frequently been met with the query: "What are you complaining about, you don't pay the tax!" the implication being that the industry's customers, and not the industry itself, pay these special taxes.

Recent studies which have been made within the oil industry, and other industries plagued with similar situations, show unquestionably that taxes do very decidedly have a bearing on earnings.

The tendency within any industry is to absorb the tax burden, particularly when the collections are excessive and represent a far greater percentage of the total charge to consumers than they should.

Undoubtedly this has had a bearing on the situation last year in which the taxes on the oil industry were three and a half to four times its annual earnings. This is also reflected in the fact that the 1939 tax bill was 50 per cent greater than in 1929 while net earnings were 50 per cent less, despite a 35 per cent increase in operations and greater capital investments.

Washington has given notice that it will seek additional taxes on the ground of national defense. There is also the fact that, despite the highest peacetime taxation rates, the federal Government is still going into debt at the rate of 250 to 300 million dollars monthly. The situation in many states and communities is similar.

Taxation has become the major problem of all industry. Its solution is largely political and 1940 is an election year.

Natural Gasoline

H. W. Harts to Head Annual Convention Committee

H. W. Harts, general superintendent, Warren Petroleum Corp., has been named chairman of the convention program committee for the annual meeting of the Natural Gasoline Association of America, scheduled for May 15 to 17, 1940, at the Hotel Tulsa, Tulsa.

Announcement of the committee appointments were made this week by George P. Bunn, Phillips Petroleum Co., president of the association. Other men named in this group are: W. F. Fulton, United Gas Pipe Line Co., Houston; J. R. Jarvis, Lone Star Gasoline Co., Dallas; G. W. McCullough, Phillips Petroleum Co., Bartlesville, Okla.; C. R. Williams, Continental Oil Co., Ponca City, Okla.; D. M. Wolfe, Standard Oil Co. of California, San Francisco, and R. A. Worley, Parade Gasoline Co., Inc., Shreveport, La.

H. W. Harts, general superintendent, Warren Petroleum Corp., appointed chairman 1940 N.G.A.A. Program Committee

Tentative plans for the convention call for the first session to be moved forward from the usual afternoon opening to the morning of the first day to give more time for technical discussions and to permit those attending the meeting to attend the preview of the International Petroleum Exposition being arranged for Friday afternoon, May 17. The exposition opens officially at noon Saturday, May 18. This arrangement will permit out-of-town natural-gasoline men to take in both the convention and the exposition on one trip.

Johnson Building Plant Near Keystone, Okla.

Johnson Oil Refining Co., of Cleveland, Okla., is constructing a natural-gasoline plant near Keystone in Pawnee County, Oklahoma. It is located in Section 27-20-9, in an area where the company has a number of producing wells from which it will obtain the gas for the plant. The plant will be of the compression type with a throughput of 750,000 cu. ft. of natural gas a day. The company officials expect a gasoline production of between 1,500 and 2,000 gal. daily. Officials state they expect the plant to be in operation about February 15.

Fire Follows Explosion At Earlsboro Plant

EARLSBORO, Okla.—Fire swept through the Barnsdall Oil Co.'s natural-gasoline plant after an explosion which destroyed the engine room and shook the countryside for a radius of 2 miles. No one was killed or injured.

Plant Supt. J. O. Green would not estimate the damage, stating only that "it was not a complete loss."

Firemen from Seminole were hampered by freezing temperatures in their hour-long battle to bring the flames under control.

Six men were at work near the engine room when the explosion occurred but escaped injury.

Recycling Plant Contemplated For San Salvador Field, Texas

Construction of a recycling plant 19 miles northeast of McAllen, in San Salvador field of Hidalgo County, Southwest Texas, is contemplated by the Gulf States Oil Co., owner of distillate production in Share 156, San Salvador del Tule grant. Gulf States has let a contract to the Rudel Drilling Co. for another well to go 9,000 ft.

Refinery Expansion

Steam-Stripping Patent Appeal Is Denied

OIL CITY, Pa., Jan. 8.—Six years of litigation over patent claims on steam stripping in fractionation column side cuts was believed to have been terminated this week with the refusal of the U. S. Supreme Court to review the suit of the Atlantic Refining Co. against James B. Berry Sons Co., Inc., of this city. The defendant had been previously upheld by both District and Circuit Courts. The decision of the Supreme Court is final unless the Atlantic Refining Co. is granted a petition for rehearing.

Tower serving as basis for litigation

The denial of the petition is regarded as important to the entire oil industry since the utilization of side-stream stripping and the taking of more than one stream from a tower is common. It is general practice.

The patent, No. 1680421, entitled "Fractional Distillation," was filed March 25, 1926, by Joseph W. Lewis, Jr., and granted to the Atlantic Refining Co. to which it had been assigned on August 14, 1928. The claims involved in the patent were not for an apparatus but for a process.

This patent and some 140 others were included in the assets of Petroleum Distillation Corp., organized by the Atlantic Refining Co., Standard Oil Development Co. (New Jersey), Standard Oil Co. of Indiana, and Foster Wheeler Corp. The suit was filed against James B. Berry Sons Co., Inc., a subsidiary of the Quaker State Oil Refining Corp., to test the validity and infringement of the patent.

May Build Two Refineries In Southern Wisconsin

SHEBOYGAN, Wis., Jan. 9.—Wisconsin Oil Refining Co., Inc., has obtained option on a 75-acre tract on the lake front south of the city where it may erect a refinery of 5,000 bbl. daily capacity. The plant will include a cracking unit for 2,500 bbl. daily capacity in addition to catalytic polymerization equipment. The plant would refine crude oil from fields in Illinois and Michigan, and marketing would be done through jobbers throughout the state, according to Dewey Foster, Wauwatosa, Wis., one of the organizers of the company. The same interests recently sought zoning changes at South Milwaukee, Wis., to permit establishing the refinery there.

In another instance two oil companies, whose names are being withheld, are interested in the construction of an oil refinery in La Crosse. The plan each company proposed was to construct a refinery costing $45,000, with local capital financing half of that amount. Under the plan the crude oil would be shipped to La Crosse either by rail or by barge up the Mississippi.

Sun Oil to Spend $14,000,000 In Major Items in 1940

PHILADELPHIA, Pa., Jan. 8.—The Sun Oil Co. will spend $14,000,000 in 1940 in major development items according to J. Howard Pew, president.

The plans include construction of a new refining unit at Marcus Hook, Pa., $4,500,000, construction of a new tank ship, $2,500,000, and oil-country developments, $2,500,000. These plans were made known in a letter to the Pennsylvania Job Mobilization Committee, whose efforts are to create more jobs in private industry.

Phillips to Enlarge Its Kansas City Refinery

BARTLESVILLE, Okla., Jan. 9.—Phillips Petroleum Co. will increase the capacity of its Kansas City, Kans., refinery by 5,000 bbl. over the immediate future to bring its total crude capacity to 28,000 bbl. daily.

The plant refines oil produced in the State of Kansas. The company also operates large plants located at Borger, Tex., and Okmulgee, Okla. With the additional capacity available at Kansas City, the company can process up to 60,000 bbl. of crude daily.

New Refining Unit For Fort Norman

CHATHAM, Ont.—In the Fort Norman field, Northwest Territories, Imperial Oil completed erection of a new refining unit last season, which will be in operation early in the spring. The field was opened in 1919-20 when the Imperial discovery well struck oil at 783 ft., several tests being drilled later of which one got production. A small refinery was put in operation in 1933 to provide fuel oil and gasoline for northern mining and transport operations. A third producer has been drilled. The new refining facilities will process up to 800 bbl. a day and permit production of aviation gasoline. The federal government has waived the 10 per cent government royalty on Fort Norman crude, in return for which the Imperial company will sell high-

octane aviation gasoline at 37 cents plus tax and fuel oil at 13 cents. Operations at Fort Norman are under supervision of R. W. McKinnon.

Fort Norman is approximately 1,200 miles north of Edmonton, the field being the most northerly oil field in the world; and heretofore aviation fuel has been freighted in from British Columbia, the transportation charges boosting the price to around $1.50 a gallon.

Consumers Cooperative Operating Refinery at Phillipsburg, Kans.

PHILLIPSBURG, Kans. — The Consumers Cooperative Association is starting operations at its new $700,000 refinery at Phillipsburg. It is the first cooperative oil refinery in the United States.

Construction to insure the association a petroleum-products supply, the refinery will have a 3,000-bbl. daily capacity. Crude for the refinery is furnished by a 70-mile pipe line.

Natural Gas

Arkansas Utilities Chairman For State Consumption

LITTLE ROCK, Ark.—Chairman Thomas Fitzhugh said the state Utilities Commission was committed to the theory that major gas companies should distribute gas produced in this state to Arkansas customers if it could be serviced at a price comparable to that paid for fuel now being piped in from Louisiana, Texas and Oklahoma.

He asserted the commission had made its position plain in conferences with officials of the Arkansas-Louisiana Gas Co., major distributor in Southwest Arkansas.

Helium Production and Consumption Report

WASHINGTON, D. C.—Secretary Ickes in his annual report on the operation by the Bureau of Mines of the helium plant near Amarillo, Tex., noted that 6,301,000 cu. ft. of the noninflammable gas was produced during the year ended June 30. Of this amount the Army and Navy purchased 72 per cent. Other shipments went to the Bureau of Entomology and Plant Quarantine, the Geological Survey and the Weather Bureau for various experiments.

Approximately 1,00,000 cu. ft. of the gas was delivered for nongovernmental use, he said, mainly for lighter-than-air craft and for treatment of respiratory diseases.

South Penn Natural Gas Co. Creation Approved

CHARLESTON, W. Va.—The Public Service Commission has approved the creation of the South Penn Natural Gas Co. which will take over all holdings of the old Clayco Gas Co. and the oil and natural-gas properties of the South Penn Oil Co.

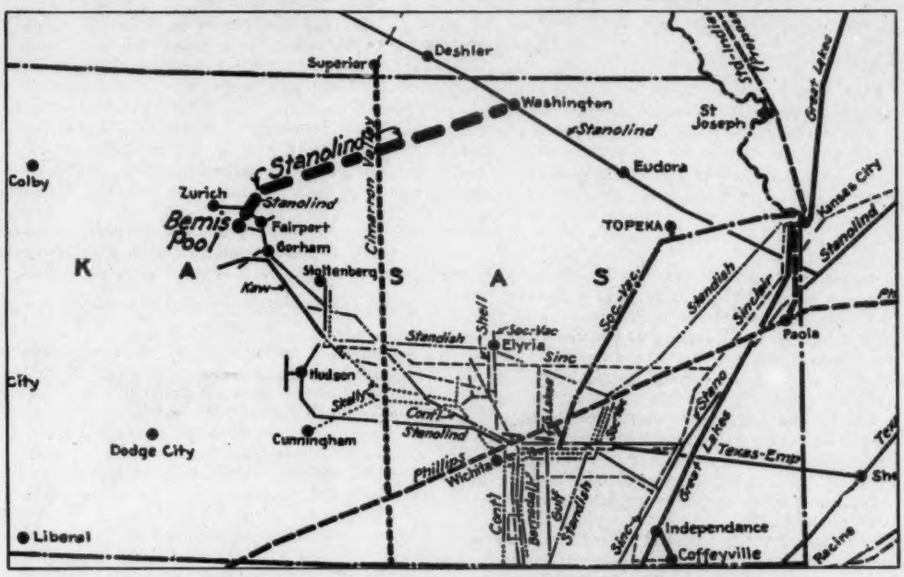
At the hearings, officials termed the proposal a corporate reorganization. South Penn Oil Co. was the parent of Clayco Gas concern, which has holdings and consumers in Central West Virginia and the Ohio Valley.

The reorganization did not include the South Penn Gasoline properties or distribution system for motor fuel.

Saskatoon Gas Franchise Modified by War

SASKATOON, Sask.—Owing to war conditions, the tentative terms of a 20-year natural-gas franchise granted Northern Natural Gas Co., subsidiary of Franco Oils, by the city of Saskatoon have been modified, a reduction being made in the company's performance bond and an increase in rates.

Pipe-Line Activity



Heavy dotted line shows approximate course of proposed 135-mile Stanolind crude line

Stanolind to Lay 135-Mile Crude-Oil Line in Western Kansas

Stanolind Pipe Line Co. has announced plans to build a 135-mile crude-oil pipe line which will furnish an outlet for the Bemis pool in western Kansas. It will connect with the company's Wyoming trunk line at Washington, Kans. The new line will be constructed almost entirely of 10-in. pipe but some 8-in. pipe will be used. The pipe is to be seamless.

At the present time no plans have been made for pumping stations. The company has a number of field stations in the area which have been serving the line from the Bemis pool to the trunk-line station at Humboldt, Kans. Surveys are now being made and right-of-way is being bought and specifications are being drawn for construction of the line. It is expected that work will start as soon as weather permits.

Franco Oils to Construct Vermilion Gas Line

VERMILION, Alta.—Franco Oils, Ltd., will construct a transmission line and distributing system for the town of Vermilion, under the terms of a franchise taken over from the Wain Town Gas & Oil Co. Contracts have been signed and work will commence in the spring, the project involving an estimated expenditure of $100,000. Franco Public Service, Ltd., headed by J. K. Swanson, will have charge of distributing operations.

Kansas Pipe Line & Gas Co. Mesabi Project

WASHINGTON, D. C.—Allen Junkin, counsel for Kansas Pipe Line & Gas Co., Chicago, discussed with Reconstruction Finance Corporation officials a loan request for approximately $18,400,000 to finance a 1,000-mile extension of the company's natural-gas pipeline system into Minnesota's Mesabi iron range.

Frank Ronan, chief of the R.F.C. industrial-lending section, spent more than an hour with Mr. Junkin discussing how much of a loan the R.F.C. might be willing to make and the terms.

Mr. Junkin is accompanied by D. H. Holmes, vice president-treasurer, of the Kansas Pipe Line & Gas Co.

The company now operates 625 miles of pipe lines in Nebraska and Kansas. The plan under consideration would extend these lines from the Hugoton fields in southwestern Kansas and from fields in Oklahoma and northern Texas to the Mesabi range.

The company proposes to supply natural gas in various cities for domestic, commercial and industrial use as well as for the processing of iron ore in the Mesabi range.

An application for approval of the plan was filed more than a year ago with the Federal Power Commission. The commission approved the plan subject to certification by the company that it would be financially able to carry through the project.

Sinclair to Loop 66-Mile Line From K.M.A. Field

WICHITA FALLS, Tex.—Plans for the construction of its second pipe line from the K.M.A. field to its main-line station near Hensley in Jack County were announced by the pipe-line department of Sinclair Refining Co. late last week. The new 66-mile, 8-in. line will parallel the company's line laid early last spring and will be electric welded. Construction is expected to be started before February 1 and the carrier placed in operation by the middle of March. The line will run from the K.M.A. station north of Kadane corner, Wichita County, southeast through the Hull-Silk area of Archer County where a small pump station will be erected. The company will also enlarge its station in K.M.A. to a capacity of about 25,000 bbl. daily.

The Sinclair company is now the largest purchaser in K.M.A., being connected to 112 leases with takings of 17,983 bbl. per day, as of January 1. In the Hull-Silk field the company is connected to 24 leases with 52 deep producers and 11 shallow wells producing about 1,750 bbl. daily. Texas Pipe Line Co. is the second largest purchaser in K.M.A., at present being connected to 425 wells with a daily taking of 16,075 bbl.

Imperial Expands Storage

GODERICH, Ont.—Expansion of the waterfront storage plant of Imperial Oil, Ltd., has been completed, recent new construction including four 200,000-gal. gasoline tanks, a vacuum-pressure tank and four 13,000-gal. tanks for storage of naphtha and other special products; together with necessary pipe connections. A five-truck garage has also been completed.

Extend Tinsley Field North; New Alabama Wildcats

By GEORGE WEBER

JACKSON, Miss., Jan. 8.—A mile northward extension of the Tinsley field is due this week as a result of oil showing in Edgar C. Johnston's No. 1 Broomfield. This test, in the SE cor. Section 2-10-3, made a good drill-stem test in the Woodruff sand late last week, and has set production string for early completion. Activity elsewhere at Tinsley continued to increase with new producers and locations scattered throughout the field.

Increased wildcatting early this year seems assured for both Mississippi and Alabama as a result of commitments on large blocks in the two states. There is an indication that a number of the structures which have been known for some time, a few of which were blocked prior to the current leasing boom, will receive tests with the drill within the next few weeks.

Leasing and geophysical shooting continued strong, with a play under way diagonally across the Cincinnati arch from the Tinsley area northeast to the Amory district. Alabama is also coming more strongly into the picture, with interest centered in the Northwest Alabama basin.

The Edgar C. Johnston and others' No. 1 Broomfield, a mile north outpost to Tinsley is expected to make a Woodruff sand well early this week. The operators cored the Woodruff sand of the Selma chalk formation at 4,810-32 ft. last week, and the good saturation encountered was supported by a drill-stem test. The test, made at 4,800-32 ft., using ¾-in. chokes at top and bottom showed recovery of 3,700 ft. of pipe-line oil with no water, in 11 minutes with a 7-lb. gage at the surface. A Schlumberger survey was run to 4,828 ft., and the following markers were checked: top of Wilcox, 1,760 ft.; top of Midway, 3,763 ft.; top of Selma chalk, 4,655 ft.; and Woodruff sand, 4,810-28 ft. A string of 5½-in. producing casing has been set at 4,801 ft. and the well is waiting on cement.

This discovery of Woodruff sand production to the north of Union Producing Co.'s No. 1 Stevens, in the NW cor. of Section 13-10-3, which found that horizon unproductive and was completed in the deeper Eutaw formation, is of considerable importance. It nullifies the definition of the Woodruff sand production on the north, as previously inferred from the Union failure in that horizon. The north outpost completion will affect field drilling probably, in extending activity to the north of present production, between the main part of the pool and the outpost.

Union Producing Co.'s No. 1 Stevens, a Eutaw producer, began producing salt water several weeks ago, and, upon reworking, operators have failed to shut off completely the salt water. The well will be recompleted when needed supplies are available, and oil and water will be treated.

Completion of Union Producing Co.'s No. 3 Stevens and No. 4 Woodruff brings the total number of wells in the field to 11. Four other tests are on the sand and are due for early completion, while seven additional tests are either drilling or beginning operations in the field.

Northwest Alabama Basin

Interest is again directed to G. C. Grasty's No. 1 Kentucky Lumber Co., an Itawamba County wildcat which shut down over the holidays to rig up with cable tools. The drilling is being resumed today, with considerable interest in possible findings in the Trenton lime, believed to hold the best possibilities for oil production. The area's other currently active wildcat, Wilmut Oil & Gas Co.'s No. 1 Roberts, in the Amory gas district of Monroe County, is reported to have missed the Carter sand, which produced the gas at Amory, and to have encountered 6 ft. of fair sand at a greater depth. Little information is being released.

Union, Prentiss, Tishomingo, Itawamba and Chickasaw counties are being actively leased, and in the latter county payments are running as high as $16 per acre in a major oil company block.

Across the Alabama State line in Franklin County, a rig is being moved on a wildcat location on the old Cedar Creek structure. O. E. Heath is to drill it, and although its location is not yet announced, it will be southwest of the old United Frankfort wildcat.

About 90,000 acres have been leased in Limestone County, Alabama, and the activity points to the leasing of over 100,000 acres shortly. In the same region, western Lauderdale County, Alabama, is also actively leased, and a wildcat is being planned on a block in the northwest corner of that county. Cullman County has 43,000 acres leased, and the Tuscaloosa County area is also gaining in interest.

Southwest of the Amory gas field, in Oktibbeha County, Mississippi, the Sturgis structure is due for an early wildcat. On this structure which was mapped by the state Geological Survey, interested parties in the area who formed the Oktibbeha Oil & Gas Co. are understood to have dealt with N. W. Shiarella of Owensboro, Kentucky, and a test will be be drilled in the near future. Oktibbeha and Choctaw counties are understood to be nearly solidly blocked by this time, with the play extending southward into Winston County.

In the Delta district to the west, another well-known structure is due for drilling. The Charleston structure of Tallihatchie County, due north of Yazoo, has been blocked with 80,000 acres and Ned R. Rice is reported to be heading the interests who have facilities for beginning the test.

In addition to the play in the northwest Alabama basin and the area to the southwest and west, central Mississippi interest is still high. Hinds County has two prospective tests, one on the southwest edge of the city of Jackson, and the second due to be drilled on a block being assembled southwest of Jackson. B. F. Melat is moving in a derrick on No. 1 Lockard, Section 26-7n-15e, Lauderdale County, in the east central section of the state. Another Yazoo County wildcat near Bentonia is reported planned, and leasing is active to the north and northeast in Holmes, Carroll, and Montgomery counties.

In the Sparta-Wilcox area of South Central Mississippi, F. E. Courson and others are reported drilling below 1,600 ft. on the No. 1 Bailey.

(Mississippi and Alabama wildcat report on Page 103)

●

British Columbia Government To Test Northern Section

The British Columbia government is going ahead this spring with its projected testing of the northern part of the province for oil and gas. The work has been strongly urged by the premier, T. D. Pattullo, who, as minister of lands in 1918, caused all oil and coal rights in the Peace River area not already alienated to be reserved for the government. In 1919 J. C. Gwillim made a survey of oil possibilities in the Peace River section along the eastern margin of the Great Plains area, the work being continued the next year by E. Speaker and John A. Dresser. In 1921 a drilling program was started, six tests located some distance north of Hudson Hope being drilled to depths varying from 1,027 to 2,525 ft., when gas was encountered in three tests and oil in two. At that time the federal government still controlled the area known as the Peace River block, which was consequently excluded from examination. In 1929 the area was again examined by Dr. M. Y. Williams.

No further work was undertaken till 1938, when the provincial government decided to reexamine the entire situation in the light of new information secured from the Fort Norman and Turner Valley developments. In the meantime, the Peace River block had been returned to the province. Field work, in 1938 and 1939, included this important area.

Earlier geological investigations had outlined a region of complex folding that, while possibly oil bearing, offered too many problems for wildcat drilling. Immediately to the east simpler structures were indicated; and still farther east were the relatively flat structures of the Great Plains region. In the Peace River area of Alberta, numerous tests had shown these formations to be oil bearing but lacking in the necessary structural conditions for commercial production.

Recent work by Prof. M. Y. Williams, of the University of British Columbia, and Prof. A. H. Cox, of the University of South Wales, has confirmed these earlier findings and supplemented them with helpful detail. The structures regarded as most favorable for early drilling are the simple, well-defined structures immediately east of the flat-lying formations. In the Peace River area of British Columbia, such structures are found at Hudson Hope, Moberly Lake, and the junction of Commotion Creek and Pine River. A few miles farther west are more complex structures resembling Turner Valley; and both these and the flat-lying structures to the east may ultimately justify development should the intervening simple structures prove commercially petroliferous.

Of the three simple structures, that crossing Pine River at Commotion Creek has been selected as the most favorable. It is a well-defined structure about 10 miles long and 4 miles wide, more deeply eroded than either the Hudson Hope or Moberly Lake structures. The top of the Paleozoic lime, known to be petroliferous, will be reached at about 1,000 ft. less depth, probably around 6,000 ft. or less. The Commotion Creek structure is 85 miles west of Hudson's Hope, with a motor road covering 50 miles. A truck road will be built to Commotion Creek early in the spring, and a cable ferry placed at Pine Crossing as soon as the ice goes out. Road building and drilling equipment will be moved over the ice this winter, so that an early start can be made in the spring. It is expected No. 1 test will be completed by the end of 1940.

Preliminary surveys have also been completed covering three alternative pipe-line outlets to the Pacific Coast. The shortest route would be to Dean Channel, the next via Prince Rupert, and the third would have its terminal at Vancouver. The potential field is much nearer tidewater than Turner Valley.

Petroleum Freight Rates To Rockies Reduced

WASHINGTON, D. C.—Reduced freight rates now are in effect on petroleum products from Kansas, Oklahoma and Texas to Colorado and points in Wyoming near Colorado.

The Interstate Commerce Commission said the reduced rates, effective January 1, were allowed over the protest of the Rocky Mountain Motor Traffic Bureau and the Colorado Trucking Association, both of Denver. Typical reductions were: Tulsa to Cheyenne, 59 to 52 cents hundredweight; Tulsa to Denver, 53 to 45 cents; Tulsa to Pueblo, 53 to 45 cents.

Tracey Wins Dismissal Of Madison Indictment

FORT WORTH, Tex., Jan. 8.—William A. Tracey, Fort Worth oil man, today won his fight against removal to Madison, Wis., for trial on a perjury indictment returned in June 1936. Federal Judge James C. Wilson dismissed the Government's motion for a rehearing of the habeas corpus case which he had decided in Tracey's favor last April.

Sinclair to Construct Line To Long Lake Field

SHREVEPORT, La.—Closely following the withdrawal of Gulf Refining Co. as a crude-oil buyer in the Long Lake pool and Anderson County, Texas, Sinclair Refining Co. has announced plans for a 10-mile, 6-in. line into the field with intentions to purchase crude. At an approximate cost of $60,000, the Sinclair company will lay its line from the Long Lake pool to tie into its line from the East Texas field. The line will run due north out of the Long Lake field.

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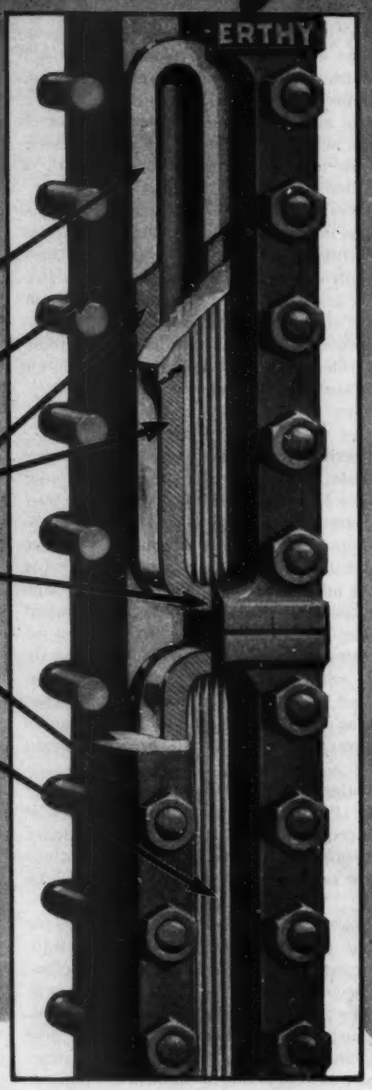

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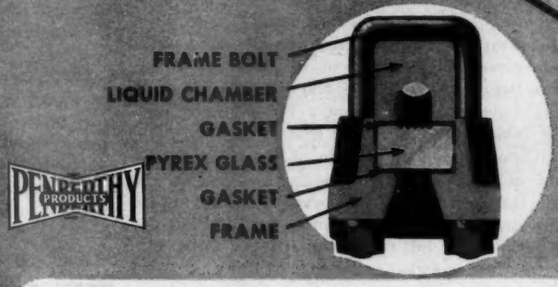

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Conservation in Illinois

(Continued from Page 9)

governor's cabinet, and he spends more time in the fields as an observer.

"I am for the type of legislation that will continue and not hinder active development," he said in a recent interview. He gives those who question him the impression that if "regulation" hampers an individual in reaping benefits from a test which constitutes a heavy investment, then such a restriction likewise hampers "proper development" of southern Illinois.

3. Considerable pressure will be exerted on legislators by organizations now operating either for or against proration. There are five groups. Those favoring control include the Independent Oil Producers Association of Illinois, headed by John Pugh, of Centralia; the Petroleum Association of Illinois, led by Clarence Smith, of Flora; and the Illinois-Indiana Petroleum Association under the direction of Alex McCandless, of Robinson.

Opposing Groups

Most powerful single group opposing any regulatory legislation at either a special or regular session is the Illinois Oil Producer's Equity Association, a relatively new organization, which was formed in September 1939. It is headed by George Harsh, Jr., with Dorsey Hager, geologist, serving as technical adviser. Until about 2 months ago the group headed by Mr. Pugh, an independent operator, dominated the picture with a special advertising campaign in a number of downstate newspapers. Since that time the opposition organization led by Harsh and Hager has countered with a similar campaign, augmenting it by a series of public mass meetings in all principal basin cities.

Both edit their copy under opposite but similar slogans, the Pugh group contending, "There is only one oil crop in Illinois. We must not squander it!"; while Harsh and Hager have captioned their copy, "There is a good oil crop in Illinois; let's harvest it!"

"Our organization," Pugh declares, "stands for necessary and reasonable regulations. If this minimum of regulation can be established now, before conditions become any worse, we believe it will help to correct the inequalities that now exist, eliminate much future waste of petroleum, prolong supply, and aid materially the continued prosperity of the industry and general business population of Illinois."

Both organizations claim the majority of independent operators and refinery owners in their membership. Mr. Hager asserts antiprorationists in the Illinois Oil Producers Equity Association represent "fully 20 per cent of the production of the state, and 90 per cent of truly independent producers." The group also lists seven independent refineries, and claims support from such independents as Joe King, president of the Kingwood Oil Co.; Max Pray, who has been active in the Sandoval field in Marion County; Arthur (Tex) Harvey, Sam Jarvis, Carl Robinson, Ben Nation, Roy Benoist, Louis Lilly, Wayne Misener, Eddie Self, and many others. "Illinoisans furiously resent the intrusion of outside influences in trying to force legislation upon this state," Mr. Hager says. "Landowners in southern counties are bitter against the major oil concerns. Merchants in the oil areas are afraid that proration will kill the oil boom as it has done in other states."

Augmenting the Equity group is the newly formed organization called Southern Illinois, Inc., comprised of business men in southern Illinois. Leaders of the group are Aud Davis, of Cairo; W. R. Hayes, DuQuoin; W. R. Lence and Alex McClaren, both of Marion; and Frank Hewitt, of Carbondale.

It is significant that Lieutenant Governor Stelle recognized the group and counseled "organization" at a mass meeting held December 22 in Carbondale. "I feel the people of southern Illinois," he declared, "must meet the issues fairly. I do not believe this can be accomplished except by organization. It has been said there are two sides to every question. As far as I am concerned on this question, my heart and my interests are with my friends and neighbors in southern Illinois."

4. The bulk of press opinion through the medium of the editorial page has been directed in favor of a measure of control that will not work a hardship on independent operators. Newspapers in northern Illinois, more than 100 miles from the limits of producing fields, have frequently endorsed outright proration. But state representatives and public officials are not greatly influenced by editorial comment following the stinging defeat suffered by the press in the 1936 national campaign. Nevertheless, it is important to note that a measure of control has been favored by the St. Louis Post-Dispatch, the Chicago Daily News, Prairie Farmer magazine, the Peoria Journal-Transcript, Illinois State Register (Springfield), the Murphysboro Independent, and the Centralia Sentinel.

5. Members of both political parties are embarking on a campaign year, and for this reason Republican representatives in particular will use the special session as a "sounding board" for other impending issues. For the same reason, all party leaders will strive to terminate the session as quickly as possible in order to return to their respective bailiwicks to build their political fences.

It must be admitted that Illinois' vast oil industry today is operating with a minimum of laws. An operator is required only to apply for a drilling permit in the office of the director of the state Department of Mines and Minerals. He must also abide by provisions of a well-plugging law, and avoid drilling near coal shafts.

In the last regular session of the legislature a total of 40 oil measures failed of passage. Of six bills that passed, two were vetoed. Vetoed measures included a measure requiring drilling of offset wells and a bill regulating stripper wells. Approved bills included issuance of drilling permits, the partition of interests in land, leasing of land in drainage districts, and creation of a joint committee to investigate production and marketing.

When the latter group made its report in October last year, a proposed "agreed" control measure was presented by various independent groups. The committee adjourned the session without making any public recommendations pending subsequent presentation of the measure at the next legislative session.

DEATHS

GEORGE CHARLTON MATSON, 66, Tulsa, geologist and engineer, died suddenly January 3. A native of Nebraska, he received a B.S. degree at Doane College in 1900. Later he attended Nebraska University and took his M.A. degree at Cornell in 1903. He took his Ph.D. degree at the University of Chicago in 1920. He had been a member of the faculties of Cornell, Illinois and Chicago universities as a young man and then was associated with the U. S. Geological Survey from 1906 to 1916. Later he was affiliated as a geologist with the Mexican Gulf Oil Co., Gulf Refining Co. of Louisiana, Gypsy Oil Co., and South American Gulf Oil Co. He was also vice president of Schermerhorn Oil Co. for 7 years before opening his own offices. He was a past president of the American Association of Petroleum Geologists and the author of numerous technical papers and had often contributed to Geological Survey bulletins.

EDWIN W. ALLEN, 60, vice president of General Electric since 1926, died recently in Johns Hopkins Hospital, Baltimore.

PORTER SMITH, vice president of Smith Brothers Refining Co., Inc., was found dead at his home in McAllen, Tex., January 6.

WILLIAM G. McGUIRE, 27, New Orleans oil exploration engineer, was fatally injured in a Texas highway accident last week.

ROBERT M. HEREFORD, 39, of Murray-Brooks Hardware Co., Lake Charles, La., his wife, two sons and a sister, were killed in an auto and train collision near Selma, La., January 7.

CHARLES R. COLE, 74, of Laredo, Tex., president of the Cole Petroleum Co., died at Laredo January 5 after a brief illness. He moved to Laredo from Oklahoma in 1920 and organized the Cole Petroleum Co.

L. E. HARWELL, 49, Burkburnett, Tex., died last week. Starting in the oil business in the Burkburnett field in 1918 he accumulated leases in North Texas and was associated with the Burk Royalty and G. W. H. Oil companies.

A. A. PERKINS, 88, inventor of the first successful method of cementing oil wells, died last week in Los Angeles. Born in Rochester, N. Y., Mr. Perkins started in the oil industry at Petroleum Center, Pa., in 1872. He moved to California in 1901, and retired in 1929.

RUFUS C. DAWES, 72, who was president of the Chicago Century of Progress Exposition in 1933, died January 8. He was a brother of Beman G. Dawes, chairman of the board, and Henry M. Dawes, president of the Pure Oil Co., and of Charles G. Dawes, formerly vice president of the United States. He was prominent in utility enterprises and largely interested in oil properties.

THE MARKETS*

CRUDE OIL: Production in the United States last week increased 36,764 bbl. per day. Texas production increased 41,000 bbl. per day. There were no crude-price changes. January allowables in Oklahoma, Kansas and New Mexico were based on Bureau of Mines recommendations but the net allowable in Texas is nearly 35,000 bbl. under the bureau's recommendation. On the other hand the Arkansas and Louisiana commissions disregarded the bureau figures and made their own recommendations considerably higher than the estimated demand.

REFINERY: Light fuels tighter in all areas east of California. Heavy fuels scarce on East Coast. Burdensome stocks, with no sign of adequate withdrawals, keeping gasoline market weak. Tone of naturals slightly improved, as moderate increase in business develops. Wax strong, with offerings few. Lubricating oils firm.

TANK-WAGON AND POSTED DEALER: Scattered advances and reductions announced by Standard of Indiana and Continental to effect local adjustments.

FINANCIAL: Oil shares participated in the mild January rise of the stock market, traders apparently believing the clouded outlook had been allowed to carry equities too low. Average of 30 representative stocks for week ended January 6: High, 27.69; low, 26.53; close, 27.18. Week ended December 30: High, 26.77; low, 25.59 close, 26.43.

*Detailed information in market section.

E. B. Swanson May Succeed Dr. Finch as Bureau Head

By HENRY D. RALPH

WASHINGTON, D. C., Jan. 8.—The resignation of Dr. John W. Finch as director of the Bureau of Mines has stirred up a hornet's nest of rumors and charges, and reports persist of an impending shakeup in the Bureau of Mines despite denials by Secretary of the Interior Harold L. Ickes.

Dr. Finch's resignation was announced late January 2 after reports were current that he had been forced out of the position by the secretary. The official announcement stated that Dr. Finch was resigning to resume his practice as a mining engineer and it quoted Secretary Ickes as praising his service in the bureau. At a press conference later in the week, however, Secretary Ickes admitted he had asked for Dr. Finch's resignation. He explained that Dr. Finch lacked "iron in his blood" in that he was unable to control a "clique" in the Bureau of Mines which resented any suggestions from their superior officers. He denied he intended to force any further resignations in the Bureau of Mines, but later he indicated he would ask members of the group to resign if they are not protected by civil service status.

The secretary did not identify the individuals comprising the "clique," and when asked what he intended to do about the "clique" he replied he had not reached that bridge yet but he intends to appoint someone with "iron in his blood" as head of the bureau.

A report, which cannot be confirmed yet, is circulating to the effect that Secretary Ickes intends to appoint as director of the Bureau of Mines Edward B. Swanson, formerly a career man in the bureau and now a member of the Petroleum Conservation Division of the department with the title of associate director for production. Dr. Finch's resignation does not become effective until January 31, so no new appointment is expected until after that date. Observers feel that whoever is named to the post will have an uncomfortable time if called before a Senate committee considering his confirmation, since it is felt Congress will use this as an occasion for a complete airing of the secretary's controversy with the bureau.

E. B. SWANSON

Assistant director of petroleum conservation, Department of the Interior, who is mentioned for director of the Bureau of Mines

The secretary denied the Cole bill for federal regulation of oil conservation had anything to do with his displeasure with certain Bureau of Mines officials, but observers feel it probably was a contributing factor nevertheless, recalling that, during the hearings last fall before Representative Cole's subcommittee, several officials of the bureau gave technical testimony regarding oil production and conservation practices but for the most part did not endorse the policy of the measure, and in answer to questions from the committee gave the impression they did not favor some of its provisions. At any rate, the controversy between the secretary and the bureau is calculated to hinder rather than aid congressional enactment of the Cole bill.

Instead of lacking "iron in his blood" friends of Dr. Finch say his trouble came in having sufficient iron in his blood to defy the secretary and to defend the opinions of his subordinates, particularly scientists and engineers, whose findings and reports at times failed to substantiate some of the policies which Secretary Ickes sought to inaugurate. Dr. Finch has been universally praised as a good administrator and scientist and as one of the most able directors ever to head the Bureau of Mines.

The controversy over sale of helium to Germany a year or so ago was admitted by Secretary Ickes to be the start of his dissatisfaction with the bureau. The law permits the exportation of helium for commercial purposes and the bureau approved an application by the German Government to purchase sufficient helium to inflate a commercial dirigible which it said was to be used only for trans-Atlantic passenger and mail service. When the contract reached Secretary Ickes for signature, however, he refused to sign it on the ground that the German Government had not submitted evidence to convince him that the helium-inflated dirigible would never be used for military purposes, and though a controversy over this raged for many weeks and it was reported that the White House attempted to intervene, the secretary never approved the contract.

Another source of controversy, which the secretary admits, arose last year over the Keller bill to authorize compulsory inspection of coal mines by the Bureau of Mines upon request of underground employes. The bill was supported by Secretary Ickes and by John L. Lewis, president of the United Mine Workers of America, but was opposed by most officials of the bureau on the ground that it was unnecessarily drastic federal regulation of business and would break down the present system of voluntary cooperation with miners in promoting mine safety.

Congress will be most interested in the secretary's charges that he cannot do anything about civil-service employes who refuse to take orders from their superiors and who sabotage administration programs. These charges were immediately attacked by all three members of the Civil Service Commission, by Representative Ramspeck of Georgia, chairman of the House committee on civil service, and by Samuel H. Ordway, head of the National Civil Service Reform League. They declared that civil service rules permit the head of a federal agency to get rid of an employe guilty of insubordination or sabotage simply by serving him with written charges and giving him a reasonable time in which to make a written reply. The civil service commissioners were bitter in their denunciation of Mr. Ickes, declaring that "an administrator who alleges that it is impossible for him to deal with an administrative situation in his own agency because of civil service rules or regulations is attempting to explain his own unwillingness to act by providing the public with misinformation."

THE budget for the fiscal year ending June 30, 1941, submitted to Congress by President Roosevelt, contemplates drastic reductions in federal expenditures in practically every category except national defense, but there are no substantial reductions in the funds for agencies serving the oil industry.

The estimate for the Department of the Interior is $7,500,000 less than current appropriations, but most of this is taken from the Bureaus of Territories and Indian Affairs. The Bureau of Mines is cut by $35,800, with a total estimate of $2,867,760. The estimate of $260,000 for the Petroleum Conservation Division and enforcement of the Connally hot-oil act remains unchanged.

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Cole Committee to California

WASHINGTON, D. C., Jan. 9.—Rep. Pehr G. Holmes of Worcester, Mass., has been appointed to the Cole subcommittee of the House committee on interstate and foreign commerce to consider federal petroleum regulation, succeeding the late Carl E. Mapes. Mr. Holmes, a Republican, was born in Sweden in 1881, educated in Worcester where he was a manufacturer and served as alderman and mayor and in the state government. He is serving his fifth term in Congress.

The subcommittee is leaving for Los Angeles, Calif., Saturday to hold hearings on the Cole bill January 16, 17, and 18, at which witnesses will be representatives of the state government and the Independent Petroleum and Consumers Association, a group which opposed the California oil control bill. Tentative plans are for the subcommittee to hold hearings in Washington the week of February 5 for representatives of other oil-producing states and the week of February 12 for the oil industry generally.

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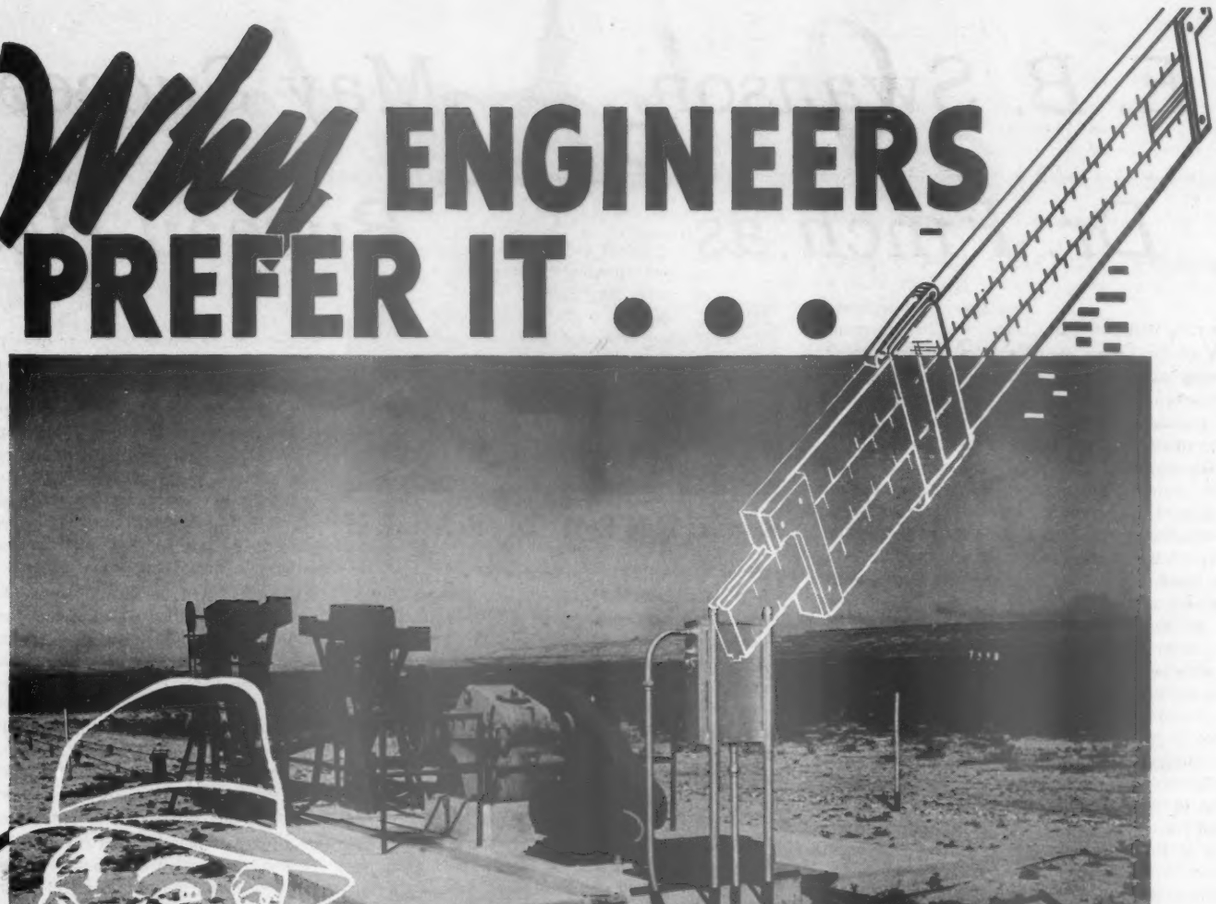

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Decline in Exports During December

DIMINISHED petroleum exports from Mexico continued in December when total shipments were approximately 1,100,000 bbl., according to a special dispatch from Mexico City last week. The dispatch said December exports were the lowest in any month since the third month after the expropriation of privately owned properties. From other sources the November exports were placed at 1,095,000 bbl.

The United States in December was reported to have headed the list of foreign purchasers of Mexican oil, taking 538,000 bbl. During the 4 months since the outbreak of the European war, Mexican oil purchases by the United States have approximately balanced with shipments to this country for the 4 months preceding the conflict.

Peak exports of Mexican petroleum since expropriation totaled 2,332,000 bbl. in July 1939. Shipments dropped to 1,753,000 bbl. in August and to 1,103,000 bbl. in September. A slight revival of business was reported in October when 1,340,000 bbl. of petroleum were exported, but the full effect of halting shipments to Germany was reflected during the last 2 months of the past year.

Scarcity of sales abroad has obliged the Mexican oil monopoly to curtail production drastically, since storage for surplus oil is virtually exhausted. Peak production was reached in October last year when the daily average was 146,000 bbl. In December production was down to slightly less than 100,000 bbl., a cut of approximately 30 per cent.

Scandinavian countries took 14,000 bbl. of Mexican oil in December, mostly asphalt. All other countries took 196,000 bbl. This figure includes shipments to Japan, Uruguay, Chile, Australia, and Switzerland via France. Vessels in Mexican ports bunkered 63,000 bbl. of oil in December, including more than 25,000 bbl. taken by the Columbus and the Arauca for their unsuccessful dash for Germany.

Exports to Italy in December were reported to have totaled 243,000 bbl. in contrast to 430,000 bbl. in November, 457,000 bbl. in October, and 266,000 bbl. in September.

There were no new developments in the expropriation controversy. Donald R. Richberg, counsel for the companies, conferred last week at Washington with Secretary of State Hull. The secretary reported after the conference that discussions between him and Mr. Richberg were of such a tentative and inconclusive nature that he was unwilling to reveal the details. Rumors reached New York that appraisal engineers, appointed by a Mexican court, had placed a tentative value between $10,000,000 and $15,000,000 upon the expropriated properties. It was pointed out that at frequent times in the past Mexican Government officials had gone on record placing the value of the oil properties in that country at vastly higher figures.

The valuation which the Mexican Minister of Foreign Affairs Pani made on Mexican oil properties in his note to Mr. Summerlin, United States charge d'affaires, on March 31, 1923, was that "the petroleum industry in Mexico is now estimated at pesos 1,050,532,434," or approximately $510,000,000 U. S. currency at the then prevailing rate of exchange. This valuation was contained in a reprint of correspondence released by the Department of State, May 8, 1926.

In 1928, according to the Mexican Department of Industry and Commerce, foreign capital invested in the oil industry in Mexico was 1,050,525,000 pesos, distributed as follows:

American	606,043,000
English	354,776,000
Dutch	71,191,000
Mexican	11,582,000
Various	6,933,000

The Mexican Department of Industry in 1936, according to Gustavo Artega, officially estimated the capital invested in the petroleum industry in Mexico to December 31 of that year to be:

North American	511,333,120	52.0%
British-Dutch	408,083,163	41.5
Mexican	49,166,646	5.0
Other	14,749,994	1.5
Total (pesos)	983,332,923	100.0%

In a memorandum read by Cortes Herrera, general manager of the Mexican monopoly, before a meeting of the Petroleum Workers Syndicate it was charged that inefficiency, inexperience, and a lack of discipline and sense of responsibility are rampant throughout the industry.

El Mundo, Tampico newspaper, published the frank document of accusation in which the workers were urged to "save the oil industry."

Senor Herrera pointed out that expenses of the Mexican oil monopoly have increased from a monthly cost of 4,273,000 pesos in April 1938 to 6,500,000 pesos currently. He pointed out that the number of workers had risen from 15,895 in April 1938 to 19,316 at the present time. The increased expense of operating the Mexican oil industry, along with the substantial decline in production and exports since the European war started, has undoubtedly precipitated an extremely delicate financial situation.

In Senor Herrera's memorandum various cases of insubordination were detailed. He said that workers in Minatitlan caused the Edleaneau plant to close because they refused to apply plans elaborated by the management and that they almost caused the closing of the Arbolgrande refinery in Tampico because they refused to let certain materials be transferred to another refinery.

He accuses the workers of large-scale thefts of piping and products by running lines from storage tanks to their own houses where they sell the oil to unscrupulous dealers. At another time, Senor Herrera said, workers refused either to repair a defective line or stop the pumps which permitted a large quantity of oil to escape into the sea at a coastal loading terminal.

Venezuela . .

Field Discovered In Anzoategui

DISCOVERY of another oil field in eastern Venezuela appeared assured last week. The latest wildcat producer reported from that section of the country is Standard Oil Co. of Venezuela's No. 1 Socororo (Pantepec), in the State of Anzoategui, which was reported to have produced 750 bbl. of 29 to 33-gravity oil through ¾-in. choke on a test made between 4,007 and 4,020 ft. (See Dec. 28, 1939, issue, page 57, for location of test.)

This new producer is approximately 9 miles northwest of Standard of Venezuela's No. 1 Yopales, nearest producer. Tubing-head pressure on the well was reported at 875 lb. and casing-head pressure at 1,200 lb. while the well was under test through ¾-in. choke on tubing. The new producer is approximately 23 miles southwest of the Oficina pipe-line terminal and is on a concession totaling 23,780 acres. The Socororo concession is surrounded on three sides by holdings of Standard Oil Co. of Venezuela, with the Mene Grande Oil Co. holding some smaller tracts to the south, where Socony-Vacuum Oil Co. is also represented.

Drilling is continuing on Texas Co., Ltd.'s No. 1 Caritos, northeast of the Temblador field, which is considered for all intents and purposes to have discovered another field in eastern Venezuela in the eastern part of the State of Monagas. Early in December the No. 1 Caritos well was tested through drill stem from 5,684 to 5,711 ft. and showed sufficient 30.5-gravity oil to assure commercial production. Drilling is now progressing below 5,800 ft. in search of deeper sands.

A second producing well in the El Roble field 2¾ miles northwest of the discovery is indicated by results of a Schlumberger test made of a sand between 8,315 and 8,355 ft. Drilling is continuing and operators hope to test the sand encountered in No. 1 El Roble discovery well at approximately 9,600 ft. No. 1 El Roble produced 805 bbl. of 44-gravity oil per day through a ¼-in. choke from 8,117 to 8,186 ft. on May 9, 1939, after redrilling from 7,700 ft. necessitated by a blowout when the hole was at 9,600 ft. The well has remained closed in for the lack of market outlet since its completion last year.

El Roble field is to be connected probably during the first quarter of 1940 with the 16-in. pipe line from Oficina to Puerta la Cruz, which passes within 6 or 8 miles of the El Roble producer.

An agreement was reached last November between Standard of Venezuela and Pantepec calling for the drilling of one and possibly two additional wells on the El Roble concession to complete Standard's 20-well obligation. Location for the third test on the El Roble concession has been made ¾ mile east of the No. 1 discovery well, which was in the approximate geographical center of the concession, which covers 35,600 acres.

The drilling contract between Pantepec and Standard of Venezuela provides that the latter will drill 20 wells at its own expense for a half interest in approximately 777,000 acres in the states of Monagas, Anzoategui, and Guarico. Thereafter, with limitations imposed in the contract, Pantepec will contribute half to the drilling expenses. So far, 16 of the 20 wells have been completed and two are drilling. The two wells covered by the November agreement to be located on the El Roble concession will complete the primary exploration consideration in the contract, which was originally dated May 14, 1934.

United Kingdom . .

THE secretary for mines announces the renewal for a further term of 12 months of a prospecting license granted under the Petroleum (Production) Act, 1934, and the Petroleum (Production) Regulations, 1935, to the Anglo-American Oil Co., Ltd. The licensed area consists of about 12 sq. miles in the County of Midlothian, Scotland, near the town of Dalkeith.

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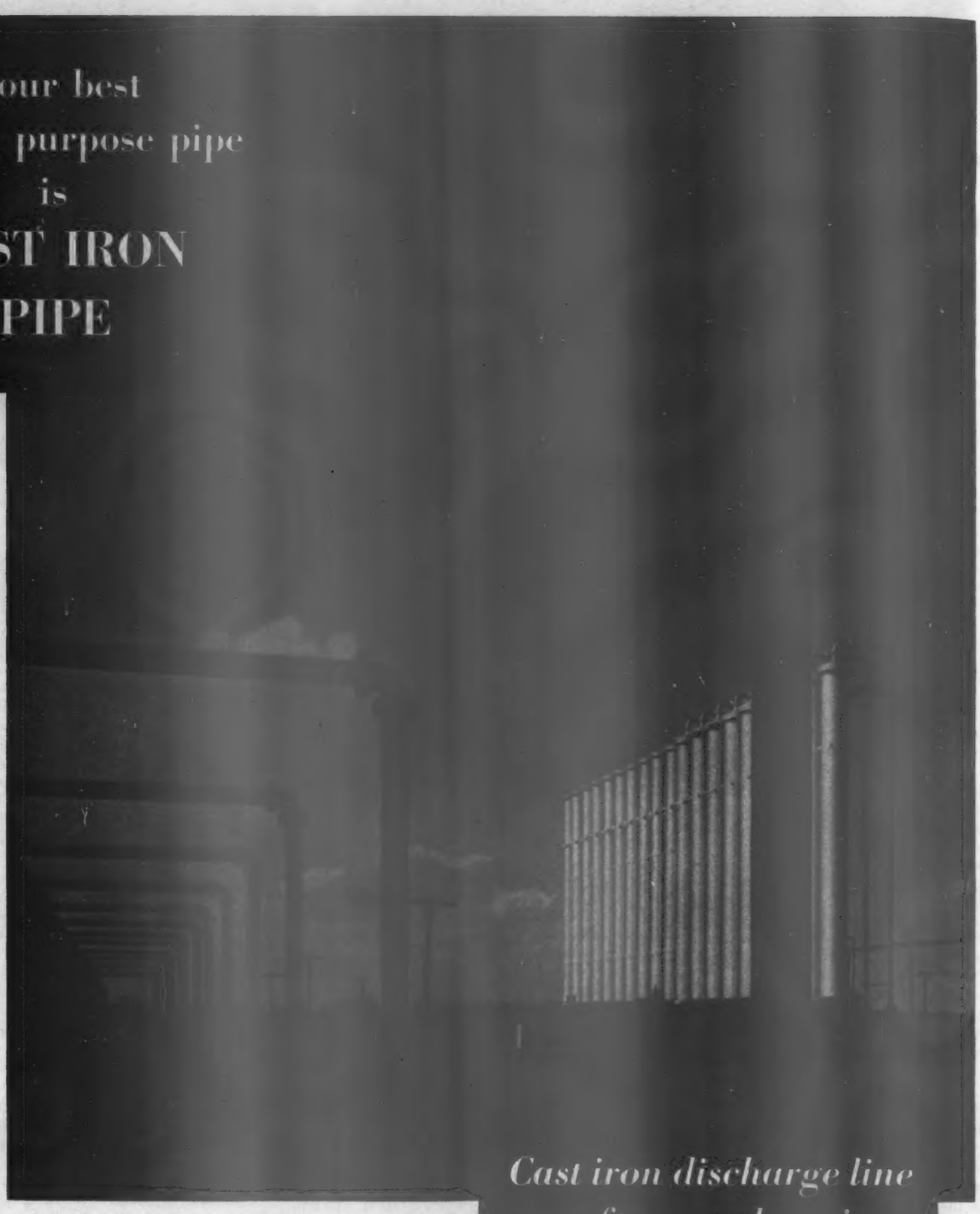

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CAST IRON · PIPE

Service on New Fields

Golden Meadow, La Fourche Parish, Louisiana

Compiled by The Oil and Gas Journal

GENERAL INFORMATION

Approved name.

Golden Meadow, from the town of the same name, which the field includes.

Geographic location.

Southern La Fourche Parish, extreme southeastern coastal Louisiana, about 25 miles inland up Bayou La Fourche from the Gulf of Mexico.

Principal cities and towns.

Golden Meadow is one of almost continuous succession of small "bayou" towns and settlements along Bayou La Fourche from Raceland coastward to Leeville. Of these Raceland, with population of 500, Lockport, with population of 900, and La Rose, with population of 600, are largest. Golden Meadow, with population prior to the oil boom, of 300, is 25 miles down Bayou La Fourche from Lockport and 33 miles from Raceland. La Rosa is between Lockport and Golden Meadow. By road, the field is 75 miles from New Orleans and 45 miles from Houma (population 7,000), the nearest cities of any important size.

Highways and roads to field.

State concrete and gravelled highway following south and west bank of Bayou La Fourche passes through Golden Meadow. This connects at Raceland with federal highway No. 90 (Old Spanish Trail) to New Orleans or Houston. Plank roads extend from townsite through field, which is in marshes. Bayou La Fourche, a navigable stream, provides water access by the Intracoastal Canal.

Railroads.

Nearest railroad point is Lockport, terminal of branch line of the Texas and New Orleans (Southern Pacific) Railroad, which connects with the main line at Raceland.

Availability of supply houses.

Except for small stores, nearest supply houses are at Houma, or New Orleans.

Trucking and hauling facilities.

Trucking and hauling facilities available out of Houma and New Orleans. Much material is moved by barges.

Electric power and gas lines.

Power line extends along Bayou La Fourche. No gas lines.

Hotel and other accommodations.

Small-town hotels and boarding houses.

Schools and churches.

Adequate schools. Not many churches.

Nearby fields.

Leeville field, about 10 miles down Bayou La Fourche, Valentine field about 20 miles up Bayou La Fourche near La Rose.

Market outlet.

Barges provide sole outlet. Bayou La Fourche and other canals provide water route to deep-water terminal and refinery centers.

DEVELOPMENT

Discovery well.

Texas Co.'s No. 1 Louisiana Terre Co., 175 ft. south, 30° 48' west along west line of Section 1-20s-21e, and 660 ft. eastward at right angles, in Section 1, approximately 1 mile southwest of the townsite. Completed in December 1938 flowing at the rate of 828 bbl. daily through a ¼-in. choke from casing perforations at 8,500-20 ft. Starting to make water, it was killed; and with first perforations squeezed, it was reperforated at 8,500-10 ft. and recompleted in January 1939, flowing 216 bbl. in 24 hours through a 3/16-in. choke. Working pressure, flowing through the tubing, was 2,475 lb. Gravity was 37.4°. The hole originally had been drilled to 11,135 ft., where 6⅝-in. casing was cemented. Discovery well was located on strength of geophysical exploration.

Subsequent development.

Fifty-nine producing wells and nine dry holes had been completed up to January 1, with the producing area extended into the townsite, where much of the present activity is taking place. Field now extends approximately 2 miles from east to west and about a mile from north to south. Ten different sands, ranging from 2,600 ft. to 10,000 ft., have been proved productive. Two dry holes, one total depth 12,256 ft. and one 10,281 ft., were more than a mile northwest of the discovery. Three others were within the townsite on the extreme east side, two being within the townsite producing area. On January 1 there were 16 active drilling operations. There have been as many as 20 rigs running in the field. Peak development was reached in October.

NUMBER OF DRILLING AND PRODUCING WELLS BY COMPANIES AND ALLOWABLE PRODUCTION JANUARY 1

Company—	Drilling wells	Producing wells*	Daily allowable prod. Jan. 1 (bbl.)
Acadian Producing Co.	0	1	0
Bateman Drilling Co.	1	0	0
Bennett Oil & Refining Co.	1	2	350
Berkshire Oil Co.	2	10	1,025
Boller & Rutledge	0	1	175
Brown & Woods	0	2	100
Peter Clobin	0	1	50
Taylor Fithian	1	3	300
Golden Meadow Oil Co.	1	2	30
William Helis	1	3	235
Jim McMurrey	0	1	175
Marr & Bristol	0	1	10
Marr & Vaughn	1	2	450
Mar-Tex Oil Co.	1	3	625
Rhodes Drilling Co.	1	2	175
St. Mary Oil Co.	1	6	850
Fred Shield	1	0	0
Terouche Oil Co.	1	1	175
Texas Co.	4	18	2,100
Total	16	59	6,815

NUMBER PRODUCING WELLS BY SANDS*

Sand depth (ft.)	Number wells	Sand depth (ft.)	Number wells
2,600	18	7,900	11
2,700	3	8,100	1
5,100	17	8,500	1
5,300	2	10,000	1
5,400	4		
6,600	1	Total	59

*Total producing wells completed including wells since abandoned or shut in.

Land and lease ownership.

Outside of townsite, Texas Co., largest leaseholder, has solid block of several thousand acres, bordering townsite on west and south. This covers marshlands and water beds under lease from Louisiana Land Co., Louisiana Land & Exploration Co., and the state. The townsite between Texas Co.'s block and Bayou La Fourche, is divided into numerous long, narrow strips, fronting on the bayou and extending lengthwise back to Texas Co.'s block in the marshes. Close to the bayou, out of the marshes, most of these strips are subdivided into town lots. Except for strips leased by Texas Co., leases are held by smaller independent companies and individual operators. The bed of Bayou La Fourche for the length of the townsite is leased by Danciger Oil & Refining Co. and William Helis, jointly, from the state.

Development program.

Development being carried on without spacing restriction or rules. Texas Co. has advocated 20-acre spacing and is expected to limit drilling within its block to a minimum, but along the townsite line, due to numerous bordering narrow-strip tracts, it is being forced to carry on a competitive drilling program. A similar line play may be forced by other owners along Bayou La Fourche, on the opposite side of the townsite. Erratic and uncertain sand conditions tend to offset the multiplicity of producing sands and, with high costs of drilling, provide a check on drilling. Further spread of development is somewhat questionable.

GEOLOGICAL INFORMATION

Type of structure.

Geophysical exploration indicated a "high," possibly a very deeply seated salt dome, of sizable extent. The discovery well, approximately near what was indicated as the center, is in the middle of Texas Co.'s block and about a mile southwest of the townsite. Texas Co. has a couple of shallow pumping wells in Catfish Lake, a state lease, about three-quarters of a mile west of the discovery, showing the structure to cover a wide area.

Age of formations.

No formations below the Miocene have been drilled. Deepest test has been carried to 12,256 ft.

Sand and structural conditions.

Multiple sand conditions exist, with production obtained from 10 separate sands. Additional sands showing oil and gas have been drilled, although no wells have been completed in them. Sands have been unusually erratic, segmentary, and lenticular with no uniformity of production from well to well, due largely to the exceptionally highly faulted condition. All sands are not found in every well, and the position of a well in relation to a fault has little bearing on finding the different sands or in producing conditions. Sands vary from 12 to 30 ft., with a relatively thin oil zone, seldom more than 5 to 8 ft. thick, making it difficult to complete wells without water. The presence of oil, water, or gas in any sand is irregular, regardless of the position of a well on structure. It is commonly theorized that the entrapment of oil is from possible seepages from some common source up fault planes.

DRILLING CONDITIONS AND PRACTICES

How wells are drilled.

Except for the Texas Co. and Bennett Petroleum Corp., which have used company-owned rigs on most their wells, all drilling has been done by contractors. Among contractors in the field have been Falcon-Seaboard Drilling Co., Otis Dyer, Big West Drilling Co., Patrick-Terrell, Bateman Drilling Co., and Rhodes Drilling Co.

Rig foundations.

Except when drilling barges are used (only by Texas Co.), matting foundations are provided.

Drilling equipment.

Steam rotary rigs have been operated on most wells, although, due to the scarcity of good water mechanical rigs have been particularly adaptable. One contractor has used a mechanical rig powered with gas engines burning butane. Equipment on medium and deep wells is of conventional Gulf Coast size and type for such depths. Three to four boilers are the rule. Derricks are 122 ft., except on the barges, on which 136-ft. derricks ordinarily are permanent equipment. Smaller rigs are being put on wells drilled only to the 2,600 and 2,700 ft. sands.

Fuel and water.

Crude oil or gas is being burned under most boilers as fuel. Gas production so far has been inadequate. On early wells fuel oil was used but this had to be barged long distances. Water suitable for boiler use is obtainable only from a few scattered fresh or semifresh-water lakes, or from semifresh-water canals. Texas Co. has a pipe line from Sweet, a semifresh lake about 6 miles south.

Bits required.

Fishtail, or similar type bits are used to about 5,000 ft. To lower depths rock bits have proved satisfactory, although no particularly hard formations are encountered.

Drilling mud.

No special drilling mud problems. Gravel beds around 600 to 700 ft. necessitate that viscosity of the mud be built up fairly high, but for remainder the mud has to be conditioned only for maintenance of walling. Ample native mud is made in drilling. Normal weights are adequate.

Drilling hazards and difficulties.

So far no excessive gas pressures have been experienced. All wells are equipped with blowout preventers. The principal difficulty in drilling is to keep the hole from getting too far off vertical from the surface down to about 2,000 ft. and from 5,000 ft. to 6,000 ft. where the formations and dips tend to force the hole to deviate sharply.

Casing regulations.

Under emergency orders of the Department of Conservation, a minimum of 100 ft. of conductor must be set and cemented with sufficient cement to fill the annular space back of the pipe to the surface. On wells to the shallow sands, 10¾-in. pipe is used; for deeper wells 13⅜-in. pipe is run, with larger pipe on exploratory of semi-exploratory wells. On earlier wells it was required that sufficient surface casing be run to set through the 2,700-ft. sand, unless a well was to be completed in that sand. Lately, operators have been permitted to reduce this string to between 600 and 1,000 ft. Most operators set 10¾-in. pipe for this string on medium and deeper wells. Cement on this string must set a minimum of 48 hours before drilling out. Most operators set 7-in. flow string although 5½-in. pipe has been run in a number of wells, particularly on wells drilled to shallow sands. Only new or reconditioned casing that has been tested to 1,300-lb. pressure per sq. in. can be used for either the surface or flow strings, and the casing must be tested by pump pressure in the presence of an agent of the Department of Conservation before plug can be drilled.

Safety regulations.

Under emergency orders of the Department of Conservation, no boilers or electric-lighting generators can be placed or kept within 150 ft. of any producing well, oil tank or occupied dwelling.

Drilling and well costs.

Costs of wells vary greatly, due to lack of uniformity of depths. Many wells have been drilled through the known sands in exploration of deeper horizons, to be completed by perforation of casing, set through the prevailing sands. Contractors' prices for medium and deep wells run from $3 to $4 per ft., with $2 to $2.50 being the prevailing scale for shallow sand wells. Total costs run from $75,000 to $80,000, considering marsh locations requiring heavy initial outlays for roadways and setting up. These costs are materially reduced by Texas Co. by use of drilling barges.

COMPLETION AND PRODUCTION PRACTICES

Completion methods:

Common practice calls for drilling hole and setting casing through sands, and completing by perforating casing. Thin oil zones make completion without water difficult, necessitating accurate and close measurements. Few operators, except in holes drilled deeper for exploration, prefer to set casing on top of the sand and complete by screen setting in the sand, taking care not to take in too much sand. Wells are washed in through tubing and small chokes.

Sand productivity.

So far the best wells have been completed in the 7,900-ft. sand. Completions generally, however, have been disappointing, although lately a number of good wells also have been obtained in the 2,700-ft. sand, and a few in the 5,100-ft. sand. Many of the wells make water and pressures have been unsatisfactory.

Gas production.

Comparatively little gas produced. Present production not sufficient to supply drilling fuel requirements. With one exception no gas wells completed.

Pressures.

Working pressures vary greatly. No high pressures encountered.

Artificial lift.

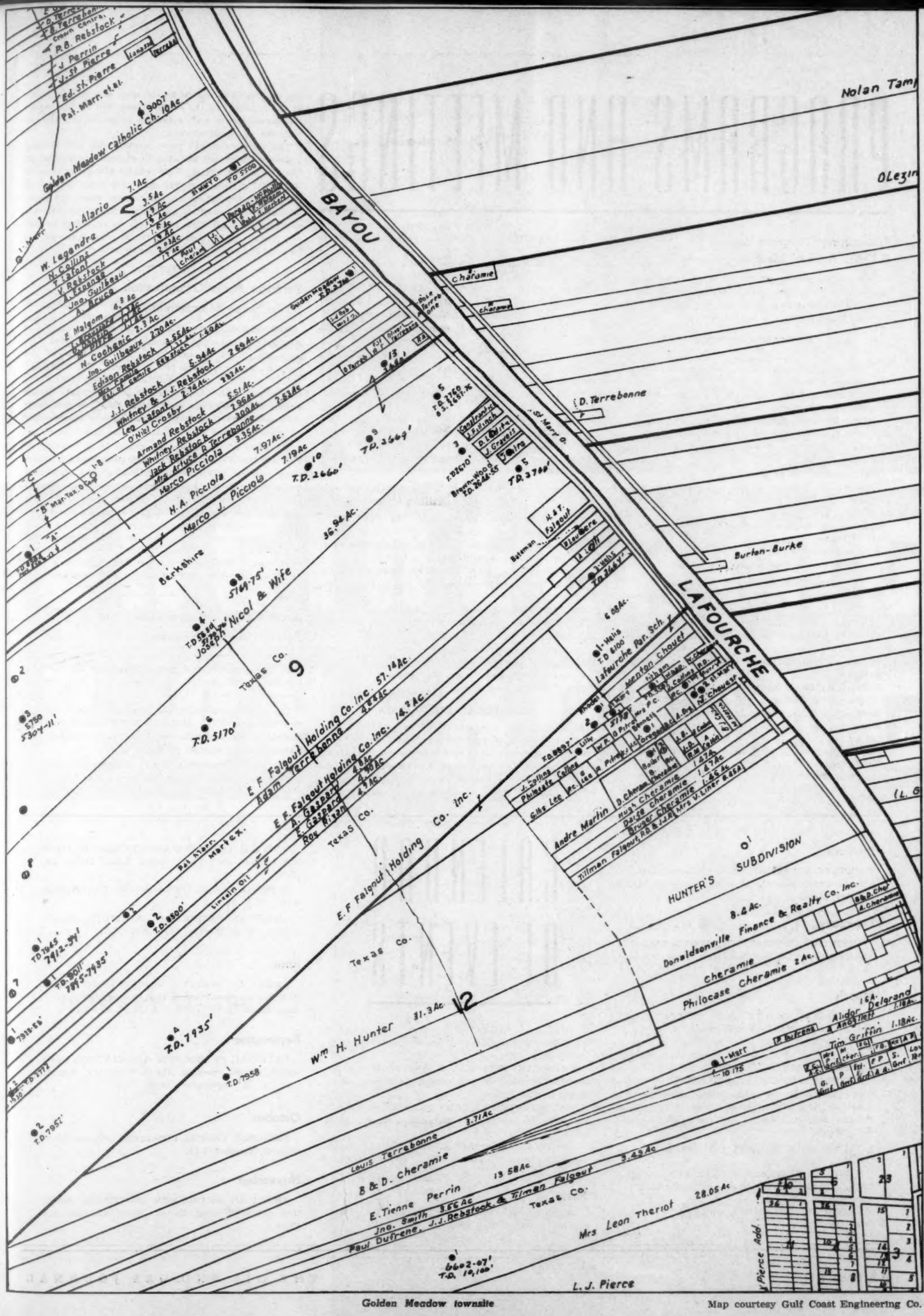
Unsatisfactory and rapid decline of pressures is resulting in many wells being placed on the pump. Until recently, however, most completions have flowed naturally on initial tests. Individual pumping units are being installed.

Proration restrictions.

Allowable production for field for January has been set at 6,815 bbl., which will be increased by production of new wells completed.

Characteristics of oil.

The oil is typical of Louisiana Miocene-grade crudes. Gravity ranges from 37° to 39.5° A.P.I.



Golden Meadow townsite

Map courtesy Gulf Coast Engineering Co.

PROGRAMS AND MEETINGS

Preliminary Program for A.I.M.E. Annual Meeting

The preliminary program for the annual meeting of the A.I.M.E. in New York, February 12-15, has just been announced. The programs for the Petroleum Division and geophysical section follow:

PETROLEUM DIVISION

Tuesday

Viscosity Measurements. By member of staff of Humble Oil & Refining Co.

Oil, Water, and Gas Flow. By member of staff of Humble Oil & Refining Co.

Application of Temperature Measurements. By C. V. Millikan, Amerada Petroleum Corp.

Reduction of Water in Marginal Oil Wells. By F. B. Plummer, University of Texas.

Core Analysis. By H. R. Pierce.

Pressure Distribution About a Slotted Liner in a Producing Oil Well. By Frank G. Miller, U. S. Bureau of Mines.

Engineering Factors Essential to Conservation. By E. H. Dahlgren.

Surface Forces in Oil Production. By S. T. Yuster.

Wednesday

(Production Summary, Domestic)

South Arkansas. By W. B. Weeks, Phillips Petroleum Co.

California. By V. H. Wilhelm, the Texas Co.

Colorado, Utah, and Wyoming. By C. E. Shoenfelt, Petroleum Information, Inc.

Illinois. By A. H. Bell, Illinois State Geological Survey.

Indiana. By Ralph Esary and G. F. Fix, Department of Conservation, Indianapolis.

Kansas. By W. A. Ver Wiebe, University of Wichita.

Kentucky. By Coleman D. Hunter, Kentucky West Virginia Gas Co.

North Louisiana. By H. K. Shearer, the Hunter Co.

South Louisiana. By J. Brian Eby.

Michigan. By Theron Wasson, Pure Oil Co.

Mississippi. H. H. Morse, Oil and Gas Supervisors.

Missouri. By Frank C. Green, Missouri Geological Survey.

New Mexico. By A. Andreas, state geologist.

New York. By D. H. Newland, state geologist.

Ohio. By J. E. Schaefer, East Ohio Gas Co.

Oklahoma. By Thomas J. Brownfield, Carter Oil Co.

South Pennsylvania. By John T. Galey.

Tennessee. By Kendall E. Born, Department of Conservation.

East Texas. By D. V. Carter, Magnolia Petroleum Co.

Gulf Coast, Texas. By Perry Olcott, Humble Oil & Refining Co.

North Texas. By Lewis MacNaughton, MacNaughton & De Golyer.

North Central Texas. By H. W. Imholz.

Panhandle, Texas. By Henry Rogatz.

South Texas. By M. T. Halbouty.

West Texas. By Peter P. Gregory, Yates pool engineering committee.

West Virginia. By David B. Reger.

Thursday

The National Interest in Petroleum. By John W. Frey, U. S. Department of Interior.

Place of the Petroleum Industry in American Economy. By J. D. Gill, Atlantic Refining Co.

World Petroleum. By V. R. Garfias, Cities Service Co.

K.M.A. Development—Recycling. By E. O. Bennett, Continental Oil Co.

Character and Functions of the Monthly Forecasts of the U. S. Bureau of Mines. By A. G. White, U. S. Bureau of Mines.

Economic Dynamics of Motor-Fuel Demand. By N. D. Fitz Gerald, Chase National Bank.

Valuation of Oil and Natural-Gas Properties. By L. F. Terry, Chase National Bank.

GEOPHYSICAL EXPLORATION

At least part of a session of the committee on geophysical methods of exploration will be devoted to a review of the past year. The committee plans to obtain material from men working in applied geophysics and also to introduce a discussion of some of the highly interesting work which has been proceeding quietly on the continents as well as on the high seas to learn more of the structure of the earth. There will be the papers discussing theory and technique in geophysics and descriptive of actual surveys.

The committee will meet jointly with the Mineral Industry Education Division to discuss matters of education in geophysics. This will be along the lines of the meeting held last year, at which time the results of the circularization of universities were analyzed.. This year the committee has been circularizing graduate geophysicists and their employers in an effort to find out wherein the present curricula in geophysics are lacking and how they should be improved.

Permian Basin Organization To Increase Membership

BIG SPRING, Tex.—The Permian Basin Oil and Gas Association will open a membership drive here January 22, H. B. Spence, executive secretary of the organization, announced late last week. The campaign will be preceded by an education program to familiarize people with aims of the unit, he said. Drives staged in three other West Texas cities to date have produced more than 800 memberships to the regional oil organization.

Members of the executive group in a meeting at Midland last Friday formulated a plan through which steps will be taken toward adjusting and equalizing taxes in the Permian basin area. The plan as adopted calls for the appointing of a thoroughly qualified tax representative from each oil-producing county in the basin, the representatives to serve as committee chairman in their respective counties. The session was attended by J. L. Green, Midland, president of the association; Ralph Oberholtzer; Mr. Seagraves, vice president; and George C. Thompson of Colorado City.

North Texas Oil and Gas Association to Nominate

Directors of the North Texas Oil and Gas Association named a nominating committee and set the date for the annual meeting as February 24 at a regular meeting last week.

The nominating committee is headed by P. F. Gwynn and includes C. P. McGaha, J. T. Harrell and Ed Kadane. The committee will nominate officers and directors to be elected February 5.

The arrangements meeting in charge of the annual banquet is headed by J. A. McCarty and includes John E. Kilgore, M. W. Blair and Ed Kadane.

CALENDAR OF EVENTS

January

SOCIETY OF AUTOMOTIVE ENGINEERS, annual meeting, Book-Cadillac Hotel, Detroit, Mich., January 15-19.

February

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, New York, February 12-15.

March

AMERICAN SOCIETY FOR TESTING MATERIALS, Statler Hotel, Detroit, Mich., March 4-5.

AMERICAN PETROLEUM INSTITUTE, Mid-Continent district, Division of Production, Wichita, Kans., March 14-15.

AMERICAN PETROLEUM INSTITUTE, Pacific Coast district, Los Angeles, Calif., March 19.

AMERICAN PETROLEUM INSTITUTE, Southwestern district, Division of Production, Houston, Tex., March 28-29.

April

WESTERN PETROLEUM REFINERS ASSOCIATION, annual meeting, Allis Hotel, Wichita, Kans., April 1-2.

AMERICAN CHEMICAL SOCIETY, Cincinnati, Ohio, April 8-12.

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, annual meeting, Stevens Hotel, Chicago, April 10-12.

AMERICAN PETROLEUM INSTITUTE, eastern district, Division of Production, Columbus, Ohio, April 11-12.

SOUTHWESTERN GAS-MEASUREMENT SHORT COURSE, University of Oklahoma, Norman, April 16-18.

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Cleveland Hotel, Cleveland, Ohio, April 18-19.

May

PETROLEUM INDUSTRY ELECTRICAL ASSOCIATION, Dallas, Tex., May 1-3.

NATURAL GASOLINE ASSOCIATION OF AMERICA, annual convention, Hotel Tulsa, Tulsa, May 15-17.

INTERNATIONAL PETROLEUM EXPOSITION, Tulsa, May 18-25.

AMERICAN PETROLEUM INSTITUTE, midyear meeting, Fort Worth, Tex., May 27-31.

June

AMERICAN SOCIETY FOR TESTING MATERIALS, Chalfonte-Haddon Hall, Atlantic City, N. J., June 24-28.

September

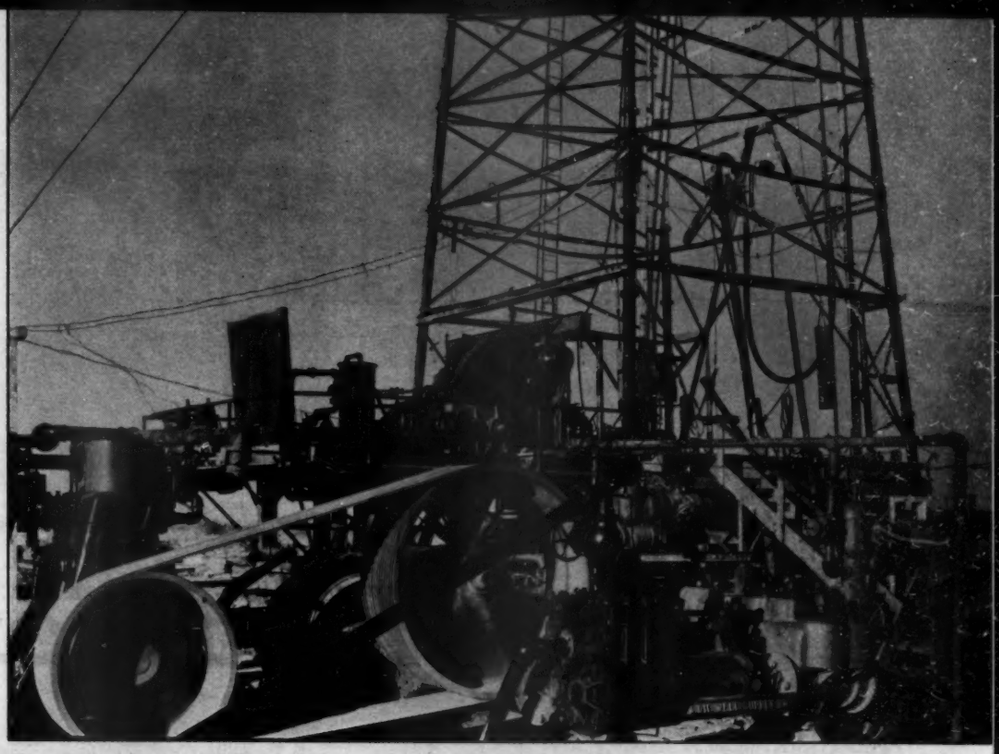
NATIONAL PETROLEUM ASSOCIATION, thirty-eighth annual meeting, Hotel Traymore, Atlantic City, N. J., September 18-20.

October

NATIONAL SAFETY CONGRESS, Stevens Hotel, Chicago, October 7-11.

November

AMERICAN PETROLEUM INSTITUTE, twenty-first annual meeting, Stevens Hotel, Chicago, Nov. 11-15.



Arrangement of machinery and piping is often quite complex in the modern drilling rigs, as this photograph illustrates. Circulation for drilling is maintained by the large power pump driven by the vertical steam engine while the duplex steam pump is used for mixing mud and for a standby. The manifold is arranged so either pump can be used to maintain circulation, mix or transfer the drilling fluid. The hoist is equipped with a feed control which operates through fluid pressure. Portability and ease of assembling are important features.

ENGINEERING & OPERATING

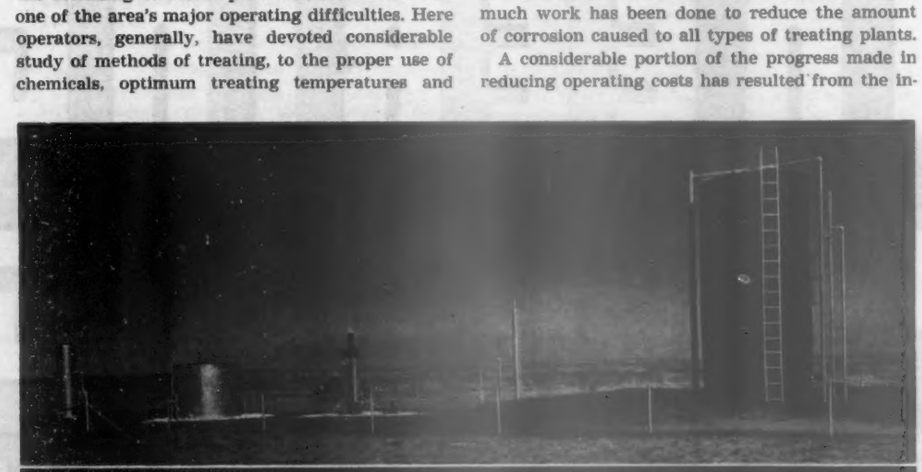
JANUARY 11, 1940

Treating plant in a West Texas field using an old boiler for supplying heat to the emulsion in the gun barrel

Treating Emulsions in the

TREATING emulsions resulting from producing crude oil in the Permian basin of West Texas and southeast New Mexico, coupled with the attending corrosion problems, continues to be one of the area's major operating difficulties. Here operators, generally, have devoted considerable study of methods of treating, to the proper use of chemicals, optimum treating temperatures and gravity losses in an effort to reduce costs. Also, since the hydrogen sulfide gas produced with the sour oil in many fields is corrosive, especially so when air is allowed to enter the lines or tanks, much work has been done to reduce the amount of corrosion caused to all types of treating plants.

A considerable portion of the progress made in reducing operating costs has resulted from the installation of treating equipment designed to meet the conditions encountered, rather than any great improvement in treating methods. Conventional treating plants, consisting of a boiler-type heater, comparatively large wash tank and a settling tank, are in the predominance but operators are slowly installing more efficient equipment. Some have installed unitized treaters that take the emulsified oil direct from the well and deliver it to stock tanks as pipe-line oil. Tubular heaters, equipped with cast-iron tubes, are used on several leases; a few plants use centrifugal pumps to circulate fresh water from the heater through cast-iron coils placed in the gun barrel; and on many leases improved heaters are replacing the boiler-type to gain more efficient heat utilization and thereby reduce operating costs.

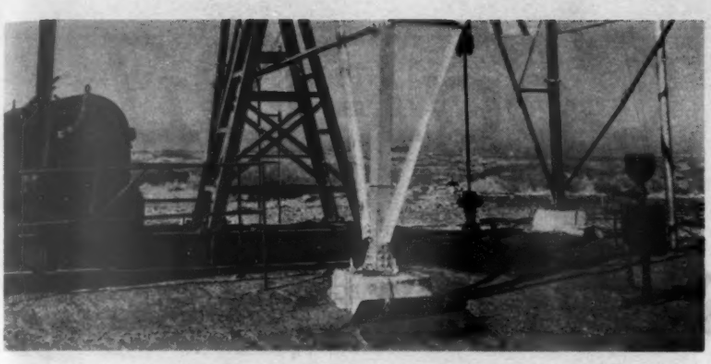


Since much corrosion occurs in the treating tanks, many operators hold back pressure on their steel tanks to exclude the air, or are using wood tanks or lining the steel tanks with corrosion-resistant materials. Also, as flow lines usually suffer from the corrosive gas (and in some instances, fluids) cast iron, Transite, and cement and asbestos materials are being used on the return line to the gun barrel.

A wide variance exists in producing conditions, gravity and characteristics of crude, properties of brines and types of emulsions encountered in the Permian basin. The bulk of the crude produced and the accompanying gas is sour, but sweet crude is produced in many sand fields; crudes vary in gravity from 16° to 46° A.P.I. Some crudes, therefore, differ only slightly in gravity from the brine, thus making separation of the two phases more difficult. The emulsifying agent is usually paraffin so that application of heat is beneficial. In the White & Baker field of Pecos County, however, the crude is of asphaltic base.

Temporary hardness of the brine produced in some fields results in heavy precipitation of solids in the heater and water-disposal lines if high temperatures are used. Usually the emulsions are of the normal water-in-oil type, in varying stages from loose to a tight gas-blown emulsion, but in some fields reverse emulsions are produced. These

Top: Closed-system treating plant in the Fuhrman field. Fresh water is circulated by a gas-driven pump from the heater to cast-iron coils placed in the bottom of the wood-baffled treating tank. Center: Tubular heater in the Fuhrman field. To combat the corrosiveness of the brine produced here, cast-iron tubes and flow line are generally used. Bottom: Electrical dehydration plant and lease tankage on a Howard-Glasscock lease



Pumping well in the Hendricks area of Winkler County using a drip for injecting the chemical into the oil stream

Treating problems in the Permian basin area of West Texas and New Mexico have become more acute with the increasing flow of water coming from the older fields. Here are enumerated many of the more important methods of breaking the oil-water emulsion, avoiding corrosion of equipment, minimizing evaporation losses and reducting production costs.

By D. H. STORMONT

Permian Basin

varying factors, therefore, require that treating methods be varied in accordance.

Types of Treaters

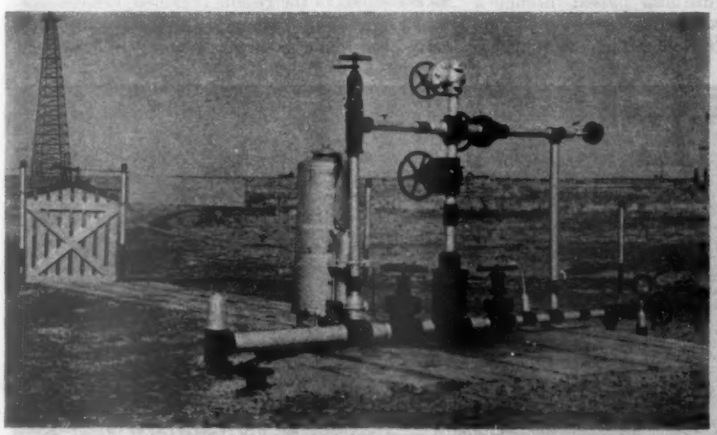
Equipment for treating the easily broken emulsions is generally relatively simple in layout. On flowing wells water knockouts of varying design are used, and in pumping production a gun barrel is usually depended upon to remove the free water or a pressure chamber of some type.

For treating the tighter emulsions mechanical, electrical, chemical and heat dehydration are used. More often, however, some combination of methods is employed; i.e., chemicals and heat are used in conjunction with a mechanical method and electrical and chemical are sometimes combined. Heat and chemical dehydration in conjunction with mechanical separation is being most widely used. Except in the Howard-Glasscock field and in a few other instances, use of excelsior or "hay" tanks as a means of mechanical separation has been abandoned.

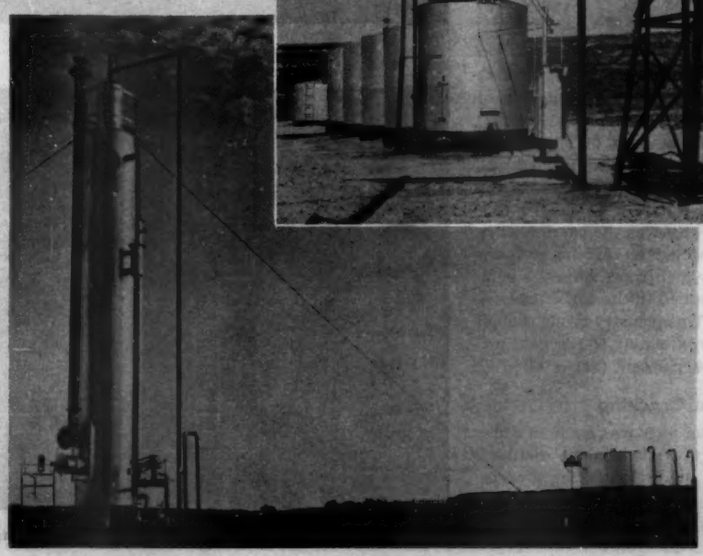
In using chemicals, alone or in conjunction with other methods, operators are steadily becoming more aware of the importance of the time of contact and point of introduction into the system. As emulsions generally tend to stabilize with age, batch treating (wherein the chemical is added at the tank and the contents "rolled") has been almost entirely discarded. On flowing wells it has been found that best results are usually obtained by injecting the chemical at the well head, ahead of the choke. As conditions in the flow line or its great length may cause reemulsification, this does not always hold true. Thus the chemical is often injected at the separator manifold of the central tank battery. In some wells with low fluid levels "down-the-hole" treating is used. Various devices are used for injecting the chemical at the well head or separator, varying from the relatively inefficient drips to the more efficient chemical injectors and motor-driven contact pumps.

Due to the higher degree of corrosion and frequent heater burnouts resulting from the higher heater temperatures required for the operation of thermosiphon-type plants, as well as the other disadvantages innate in the method, the flow-line type heater is being more widely installed. The flow-line treating plant has the advantage that the emulsified oil stream receives an initial heat before it reaches the settling tank where the "break" occurs; also, that the gas liberated by the application of heat is separated in the flume thus making a quieter settling layer in the gun barrel. Due to the greater degree of safety offered by the thermosiphon-type plant, less likelihood of the oil being overheated, no deposition of carbon in the

(Continued on Page 50)



Above: Well-head connections on a flowing well in the Fuhrman field with a feeder for injecting the chemical into the oil stream



Above: Electrical dehydration plant and lease storage in the McCamey area. Left: Unitized emulsion treater in the Howard-Glasscock field. Heating, agitating, washing and settling are all accomplished in the one unit, pipe-line oil being delivered to tanks.

Cracking Coal-Oil Distillates

By GUSTAV EGLOFF, G. B. ZIMMERMAN, J. C. MORRELL, and W. E. LEMEN
Universal Oil Products Co.

THE process[1] in which coal-oil distillate is produced consists essentially in passing a carburet of coal-oil vapors and gas through a charge of coal that is being carbonized in the standard Glover-West vertical retorts commonly used in the gas-making industry. The carburet passes upwards through the retort, contacting with the coal in its passage downwards at increasing temperatures. In actual practice the carburet is produced by injecting into the base of the retort a finely atomized mixture of steam, gas and oil in various proportions according to the desired end products. The result of this injection is to keep the entire mass in the retort in a bath of gas-oil vapors, thereby soaking out primary oils by direct liquation, and by their rapid removal from the system, prepare the coal for more drastic carbonization in the lower section of the retort.

The quantity of oil injected may vary from 15 to 50 gal. per ton of coal treated, the proportion of gas from 5,000 to 10,000 cu. ft. per ton of coal while the steam is only sufficient to properly atomize the oil during its passage into the retort. At 550° C. (1,022° F.) it is possible to recover 40-45 gal. of crude coal-oil distillate per ton of coal when 22 gal. of extraneous coal-oil is injected in the form of carburet, or a net yield of 18-23 gal. of primary crude oil per ton of coal processed.

The coal-oil distillate, which was investigated for suitability as charging stock in a thermal cracking process, was produced by the carbonization of a typical South Yorkshire bituminous gas coal having the following characteristics:

PROXIMATE ANALYSIS OF COAL
(Air dried)

	Per cent
Moisture	1.73
Ash	7.13
Volatile matter	34.55
Fixed carbon	56.59
Total	100.00
Ash color	Pink to gray
Coke button	Fairly soft
Swelling, per cent	150
Calorific value (B.t.u. per lb.—dry)	13,900

The range of temperatures was 700°-800° C. (1,292°-1,472° F.) in the combustion chambers of the retort equivalent to 600°-700° C. (1,112°-1,292° F.) in the coal bed. The amount of oil injected varied from 10 to 20 gal. per ton of coal treated, and the accompanying gas in the carburet varied from 5,000 to 10,000 cu. ft. per ton. The properties of a vertical creosote fraction used as the carrier oil in the carburet and the properties of the primary crude coal-oil distillate which represents the combined liquid product obtained in the carbonization, are reported in Table 1. This primary crude coal-oil distillate consists of approximately 60 per cent primary crude coal oil and 40 per cent carrier oil.

Pilot-Plant Cracking

A series of experimental tests was made in order to evaluate the primary crude coal-oil distillate as a cracking stock in a thermal cracking process. These tests were carried out in a pilot cracking plant using both a precoking and a two-coil recycle integral-type coking operation. Flow diagrams of these operations are illustrated in Fig. 1 and Fig. 2. In the once-through precoking operation the plant capacity was approximately 3 gal. per hour, raw oil passing directly through an equiflux furnace and thence into a coking chamber from which coke-chamber distillate was withdrawn through a condenser. In the recycle integral-type coking operation, the total combined feed capacity was approximately 7 gal. per hour. Raw oil was fed to the cracking-plant fractionating column while a heavy combined feed was withdrawn at the bottom of the column and pumped through a heavy-oil cracking coil, and a lower boiling fractionator side-cut oil was pumped through the light-oil cracking coil. The cracked products from each coil passed through a common transfer line to a reaction chamber and thence to a coking chamber from which the gases and distillate passed through a flash chamber and thence to the main fractionating column. The fractionator operating conditions are controlled so that gas and gasoline are removed overhead from the system while the higher boiling fractions comingle with the incoming fresh feed and are recycled to the furnace tubes for further cracking to gasoline, gas and coke.

Pilot-Plant Operations

Operating conditions in the pilot plant were adjusted to give the maximum gasoline yield when producing a coke residue, and hence the actual conditions of temperature and pressure may differ slightly from those used commercially. However, over 1,500 runs have been made in the thermal cracking pilot plants on a variety of charging stocks which include straightrun and cracked petroleum stocks from fields all over the world, shale oils, coal oils, creosote fractions, and various natural and synthetic hydrocarbons. Available comparisons show a remarkable similarity between the yields and qualities of products obtained in the pilot plant as compared to the results obtained commercially when processing similar stocks. Pilot-plant results have been found particularly useful in design cal-

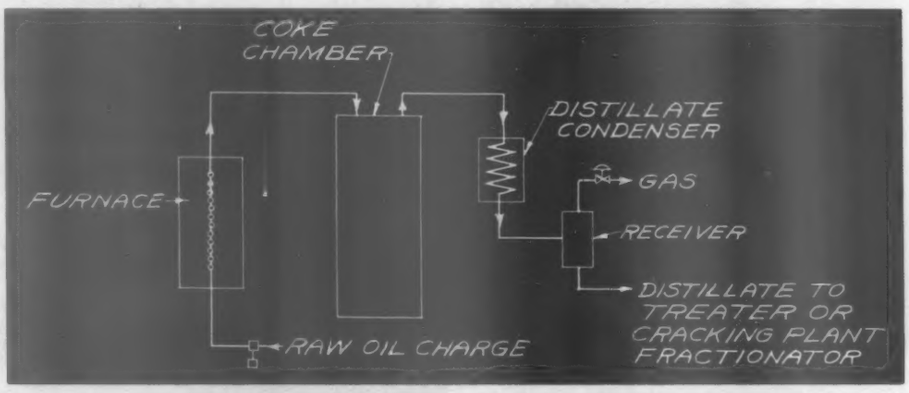


Fig. 1—Flow diagram of precoking operation

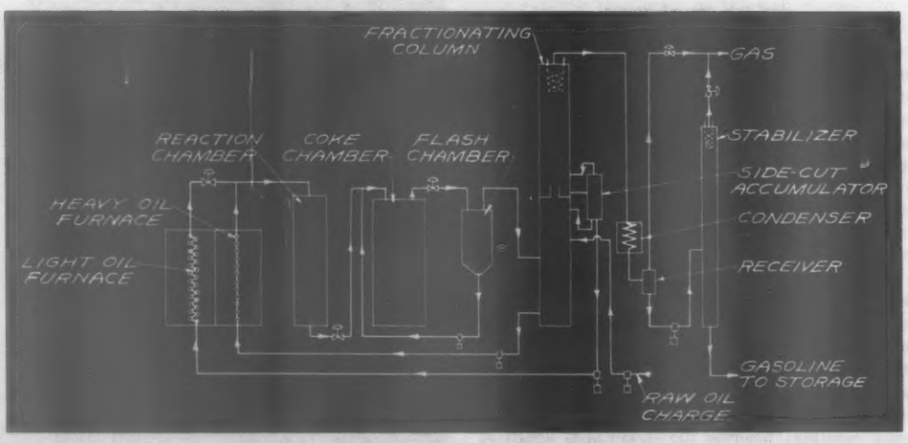


Fig. 2—Flow diagram of integral-type coking operation

[1]The oils used for these cracking tests were supplied through the courtesy of the National Coke & Oil, Ltd., of London, England.

TABLE 1—PROPERTIES OF COAL-OIL DISTILLATES

Identification—	Primary crude-coal-oil distillate (as received)		Creosote carrier oil (as received)		Untreated precoked primary distillate		Dephenolated precoked primary distillate		Tar acids from precoked primary distillate	
Properties:										
Gravity, °A.P.I.	1.2		9.4		5.5		6.1		—4.0	
Specific gravity at 60° F.	1.066		1.004		1.033		1.028		1.109	
Universal viscosity at 100° F., sec.	....		40.0		43.8		42.1		....	
Kinematic viscosity at 100° F., cts.	....		4.2		5.4		4.9		....	
Sulfur, per cent	0.86		0.73		0.75		0.84		....	
B. s. and w., per cent	5.0		0.2		1.8		1.2		....	
Water, A.S.T.M., per cent	1.6		....		2.1		1.3		....	
Tar acids, approximate, volume per cent	34.0		11.6		24.4		0.4		....	
Tar bases, approximate, volume per cent	10.0		4.2		4.2		2.4		....	
Cold test	—15° F. (—26°C.)		10° F. (—12° C.)		—25° F. (—32° C.)		—10° F. (—23° C.)		....	
Characterization factor	9.5		9.95		9.7		9.8		....	
100 cc. distillation:	°F.	°C.	°F.	°C.	°F.	°C.	°F.	°C.	°F.	°C.
Initial boiling point	209	98	329	165	240	116	282	139	307	153
5 per cent	333	167	390	199	330	166	387	197	390	199
10	380	193	414	212	374	190	411	211	404	207
20	430	221	442	228	411	211	462	239	422	217
30	459	237	464	240	438	226	485	252	441	227
40	492	256	492	256	465	241	504	262	463	239
50	566	297	519	271	506	263	534	279	504	262
60	627	331	550	288	556	291	580	304	565	296
70	685	363	598	314	614	323	622	328	614	323
80	735	391	640	338	666	352	664	351	....	....
90	....	....	688	364	....	....	725	385	....	....
End point	760+	404+	760+	404+	760+	404+	757	403	614	323
Per cent by volume	87.0		98.5		98.0		98.5		75.5	
Per cent coke by weight	12.8		1.5		1.9		2.2		27.1	
Per cent at 410° F. (210° C.)	15.5		9.0		19.5		10.0		13.0	
Overhead distillate (67 per cent by volume):										
Tar acids, volume per cent	24.9		....		....		....		....	
Tar bases, volume per cent	3.1		....		....		....		....	

culation and yield determination for stocks on which little or no commercial data is available.

Precoking Primary Distillate

Due to the nature of the primary crude coal-oil distillate this material was first processed as received in a once-through precoking operation to produce a relatively clean precoked distillate for subsequent recycle cracking tests. This operation was carried out with a pressure of 50 lb. per sq. in. (gage) in the cracking coil and coke chamber while the furnace transfer, or coil outlet temperature, was maintained at 890° F. (477° C.) and the coke-chamber-vapor outlet temperature was 820° F. (438° C.) The raw-oil-charge rate to the cracking coil was approximately 3 gal. per hour. The yield of precoked distillate recovered was equivalent to 84.4 per cent by volume of charge while the coke production amounted to 57 lb. per bbl. of charge, and the gas, 136 cu. ft. per bbl. of charge. On the weight basis the yields were: 81.8 per cent precoked distillate, 15.4 per cent coke, and 1.8 per cent gas, with a recovery of 99.0 per cent and a weight loss of 1.0 per cent. Properties of the precoked distillate appear in Column 3 of Table 1 while the properties of the coke and gas are shown in Table 3.

Dephenolation of Precoked Distillate

In order to compare the yields and properties of products obtainable in subsequent cracking of the acid-containing precoked distillate with a dephenolated or acid-free distillate, a portion of the precoked distillate was agitated with an excess of 23.5 per cent sodium hydroxide solution and the caustic phenolate solution separated from the dephenolated oil. Yields based on the precoked distillate are shown below:

Yields—	Vol. per cent	Wt. per cent
Dephenolated oil	71.0	70.6
Tar acids	22.2	23.9
Recovery	93.2	94.5
Treating loss	6.8	5.5

Overall yields for the precoking and dephenolation operations based on the original primary crude coal-oil distillate as received, follow:

Yields—	Vol. per cent	Wt. per cent
Dephenolated oil	59.9	57.7
Tar acids	18.8	19.6
Coke	....	15.4
Gas	....	1.8
Recovery	78.7	94.5
Loss	21.3	5.5

The properties of the dephenolated precoked distillate and the tar acids, which were recovered from the caustic phenolate solution by further treatment with carbon dioxide, are reported in Columns 4 and 5 of Table 1. The treating loss on dephenolation was apparently due to mechanical losses of the lighter fractions in the gasoline boiling range. Such a loss should be negligible in a closed treating system, the lighter fractions being retained as a part of the total gasoline yield.

Recycle cracking tests were made on the precoked primary crude coal-oil distillate, the de-

(Continued on Page 52)

TABLE 2—OPERATING CONDITIONS AND YIELDS —RECYCLE CRACKING OF COAL-OIL DISTILLATES

Charging stock to cracking plant—	Precoking primary crude-coal-oil distillate: Untreated	Precoking primary crude-coal-oil distillate: Dephenolated	Creosote carrier oil
Operating conditions (pressure, lb. per sq. in.):			
Heavy-oil cracking coil	250	250	250
Light-oil cracking coil	350	380	350
Reaction chamber	250	250	250
Flash chamber	50	50	50
Fractionating column	50	50	50
Stabilizer	166	161	133
Coke chamber	200	200	200
Temperatures, °F.:			
Heavy-oil transfer	906	907	910
Light-oil transfer	963	959	950
Reaction chamber	885	881	880
Flash chamber, vapor outlet	734	768	742
Fractionating column:			
Bottoms	591	616	623
Vapor outlet	379	375	374
Stabilizer:			
Top	79	78	76
Bottom	387	408	417
Coke chamber, vapor outlet	844	843	841
Rates, gal. per hour:			
Raw oil	0.41	0.46	0.71
Heavy combined feed	4.0	4.0	4.0
Light combined feed	3.0	3.0	3.0
Combined feed ratio	17	15	9.9
Yields, volume per cent of charging stock:			
Untreated gasoline distillate	39.6	36.7	42.5
Water	0.9	0.0	0.5
Liquid recovery	40.5	36.7	43.0
Liquid volume loss	59.5	63.3	57.0
Gas, cu. ft. per bbl. of charge	970	966	932
Yields, weight per cent of charging stock:			
Untreated gasoline distillate	33.5	29.7	35.7
Coke	51.0	55.4	48.2
Gas	12.9	13.7	14.1
Water	0.9	0.0	0.5
Recovery	98.3	98.8	98.5
Experimental error	—1.7	—1.2	—1.5
Coke, lb. per bbl. of charge	184	199	169
Overall yields, precoking and recycle coking, volume per cent of primary crude-coal-oil distillate:			
Untreated gasoline distillate	33.4	22.0	....
Tar acids	....	18.8	....
Water	0.8	0.0	....
Liquid recovery	34.2	40.8	....
Liquid volume loss	65.8	*59.2	....
Gas, cu. ft. per bbl. of primary coal oil:			
Precoking operation	136	136	....
Recycle coking operation	818	579	....
Total gas	954	715	....
Overall yields, precoking and recycle coking, weight per cent of primary crude-coal-oil distillate:			
Untreated gasoline distillate	27.4	17.2	....
Tar acids	....	19.6	....
Coke	57.1	47.4	....
Gas	12.4	9.7	....
Water	0.7	0.0	....
Recovery	97.6	93.9	....
Experimental error	—2.4	*—6.1	....
Coke, lb. per bbl. of primary crude-coal oil:			
Precoking operation	57	57	....
Recycle coking operation	155	119	....
Total	212	176	....

*Includes dephenolation losses (5.7 volume per cent, 4.5 weight per cent).

"CAMERON-

For almost twenty years, the name "Cameron" on drilling control equipment has been the universal symbol of utmost safety and reliability. Most men entrusted with the responsibilities of safely drilling and completing high pressure oil and gas wells have placed their confidence in Cameron Pressure Operated Blowout Preventers, Master Gate Valves and Flowline Gate Valves.

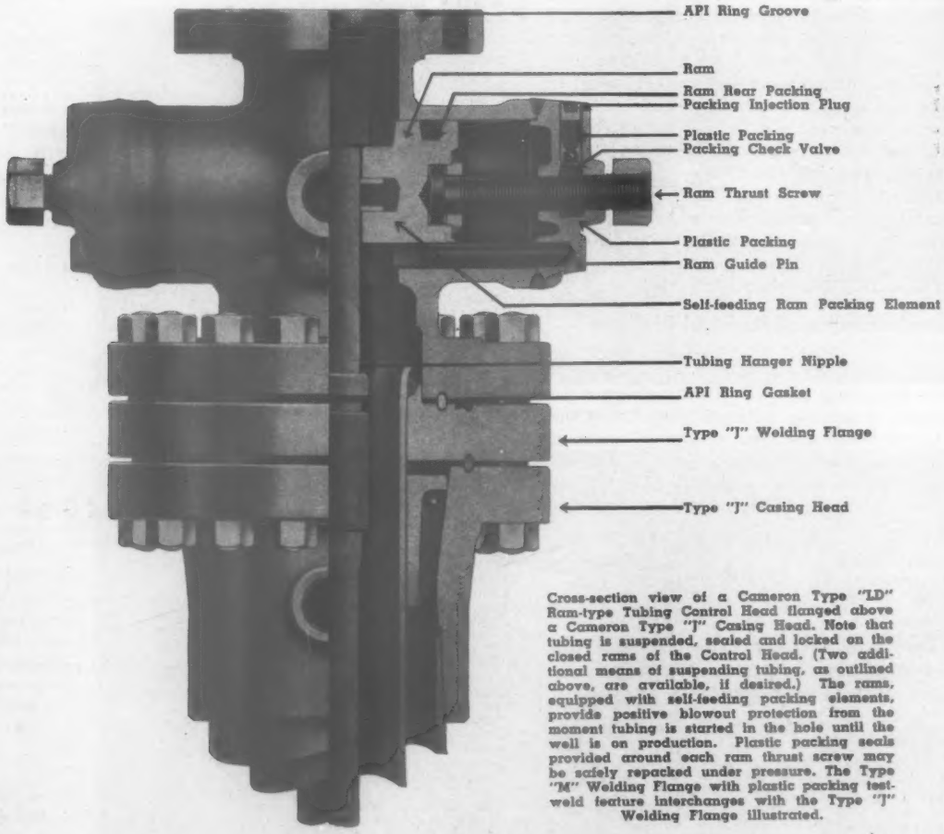
Now, with the same degree of confidence which has marked the selection of Cameron drilling control equipment in the past, an operator may entrust his entire **completion operations** to Cameron equipment and methods.

The Cameron Type "LD" Ram-Type Tubing Control Head, which is comparable in price to conventional "set-screw" type tubing heads, provides the ultimate in safe, positive control during every step of the completion operation. Its rams are equipped with self-feeding packing elements to assure a positive, pressure-tight seal and permit sustained pipe movement under pressure. Three types of tubing suspension are available: (1) On the closed rams as illustrated below; (2) on slips in the top flange of the Control Head; (3) on a threaded hanger flange which bolts on top of the Control Head. On any re-working job, this Control Head, used in conjunction with an additional Cameron Ram-type Unit, permits raising, lowering or pulling the tubing under pressure.

Cameron Casing Heads and Spools provide the "last word" in convenience, safety, speed of installation, and pre-tested efficiency under pressure. They provide for slip suspension of casing strings at any desired point in the hole. Seal of the space between casing strings is accomplished by a heavy construction weld. If desired, the welding flange can be furnished with the unique plastic packing test-weld feature. Seal between flanges is by means of standard A.P.I. ring gaskets. All casing size threads above the surface pipe connection have been eliminated. Flow outlets are available threaded or flanged as desired.

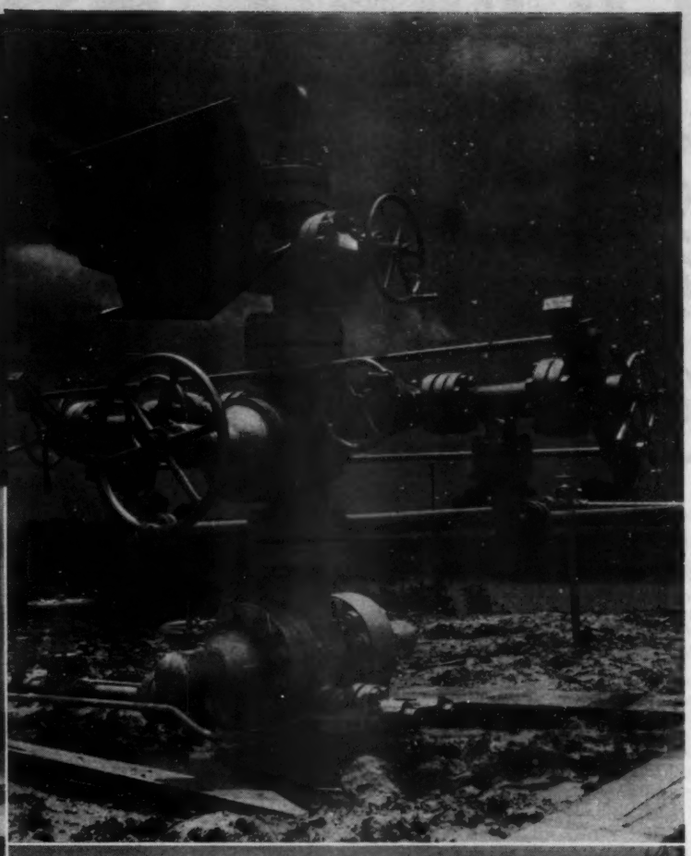
All service tools required for completing a well with Cameron equipment are furnished without charge to Cameron users in domestic territories where we maintain a factory representative. Also, when desired, the services of an experienced operator are available to properly instruct the field personnel in the use of this equipment.

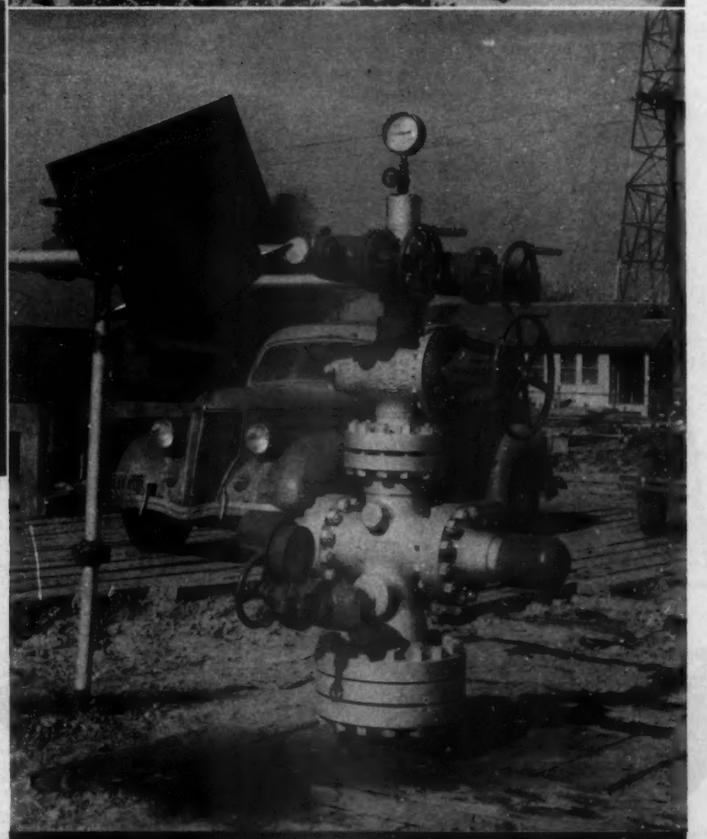
Write for your copy of the free booklet—"Cameron Closed Pressure Method of Drilling and Completion." Details on all items of Cameron Completion Equipment will gladly be furnished on request.



Cross-section view of a Cameron Type "LD" Ram-type Tubing Control Head flanged above a Cameron Type "J" Casing Head. Note that tubing is suspended, sealed and locked on the closed rams of the Control Head. (Two additional means of suspending tubing, as outlined above, are available, if desired.) The rams, equipped with self-feeding packing elements, provide positive blowout protection from the moment tubing is started in the hole until the well is on production. Plastic packing seals provided around each ram thrust screw may be safely repacked under pressure. The Type "M" Welding Flange with plastic packing test-weld feature interchanges with the Type "J" Welding Flange illustrated.

"IZE"



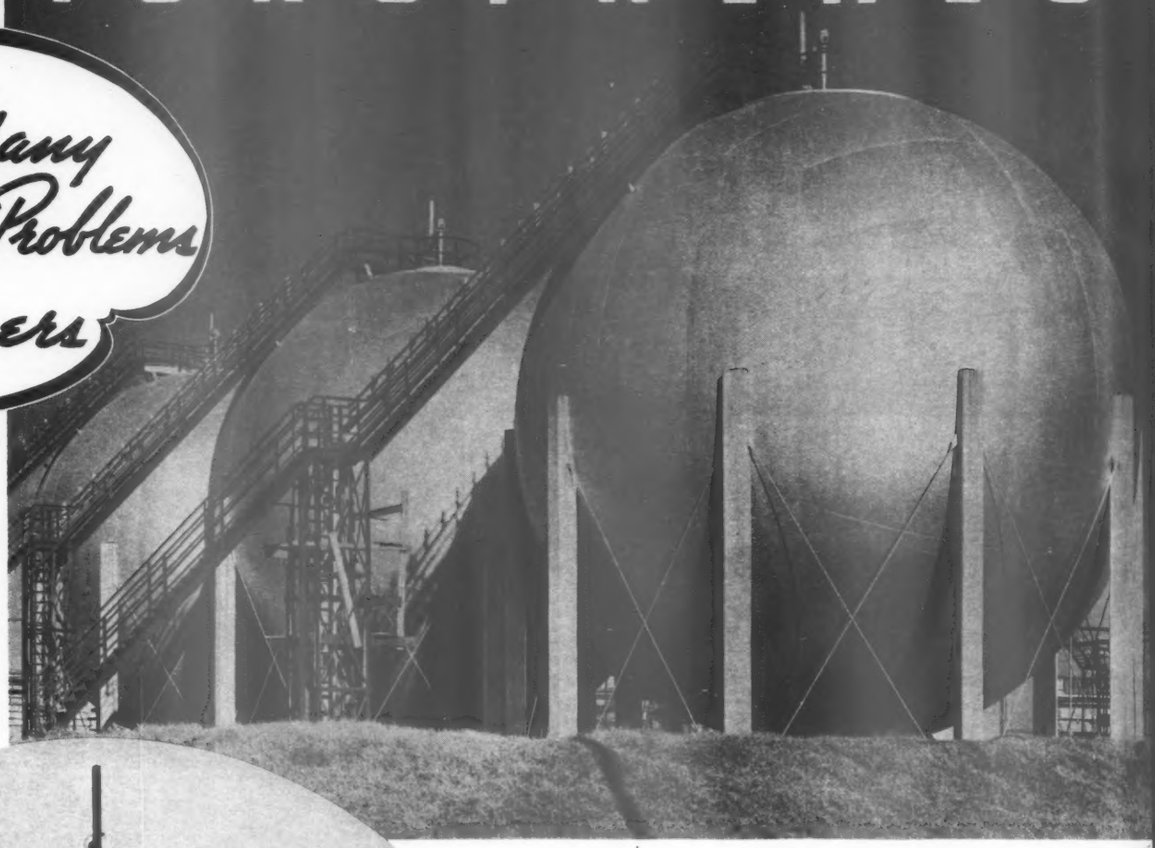


The numerous exclusive advantages of the Cameron Closed Pressure Method of Drilling and Completion have been definitely proven in completing hundreds of high pressure wells in Gulf Coast, Mid-Continent and California fields. Shown on this page are several representative Cameron Safety Xmas Trees, all of which were assembled on Cameron Casing Heads and Cameron Ram-type Tubing Control Heads. The new Cameron Type "LD" Tubing Control Head (shown in cross-section at left) employs essentially the same basic principles of design as the earlier models of Cameron Tubing Control Heads, yet it costs little if any more than the conventional "set-screw" type tubing heads.

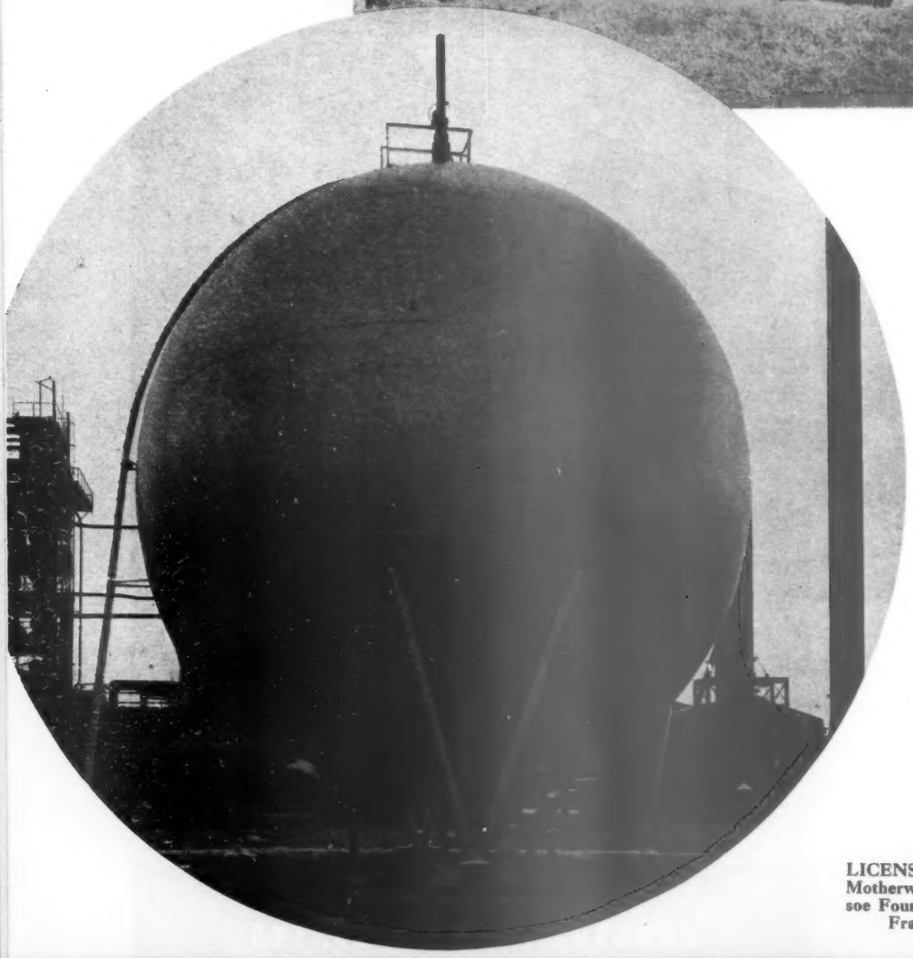
CAMERON IRON WORKS, INC.

HORTONSPHERES

Solve Many Pressure Problems for Refiners



● Hortonspheres are becoming increasingly popular among refiners for providing an efficient, economical answer to the scores of pressure storage problems that exist in modern refining operations. Illustrated on this page are but two of the many uses to which Hortonspheres are being adapted. These modern pressure storage units are built in capacities ranging from 1,000 to 12,500-bbl. and for pressures of from 25 to 250 lbs. per sq. in. or higher.



STORING LIGHT FRACTIONS

A major problem encountered in the operation of polymerization plants is the maintenance of a constant supply of charging stock. This problem has been solved by installing Hortonspheres for pressure storage of recovered refinery gases and light stocks, such as butanes, received from oil fields. They are also used to store butanes and pentanes produced in fractionating units.

The three Hortonspheres shown above are used for this type of service by a Gulf Coast refinery. Each has a capacity of 12,500-bbls. and is designed for 50 lbs. per sq. in. pressure.

FUEL GAS STORAGE

Another important refinery service in which Hortonspheres are used is the storage of fuel gas under pressure. For example, the Atlantic Refining Company uses the 36-ft. diameter sphere illustrated at the left to supply refinery gas at a constant pressure to combination oil and gas burners in the still and burner house of the new Atlantic cracking and polymerization plant at Atreco, Texas. The sphere operates at 100 lbs. per sq. in. pressure, and releases the fuel gas to the burners at 30 lbs. pressure. It has an effective capacity of 115,000-cu. ft. of gas. An average of 6,000,000 cu. ft. of 1300 Btu gas passes through the burner supply system per day.

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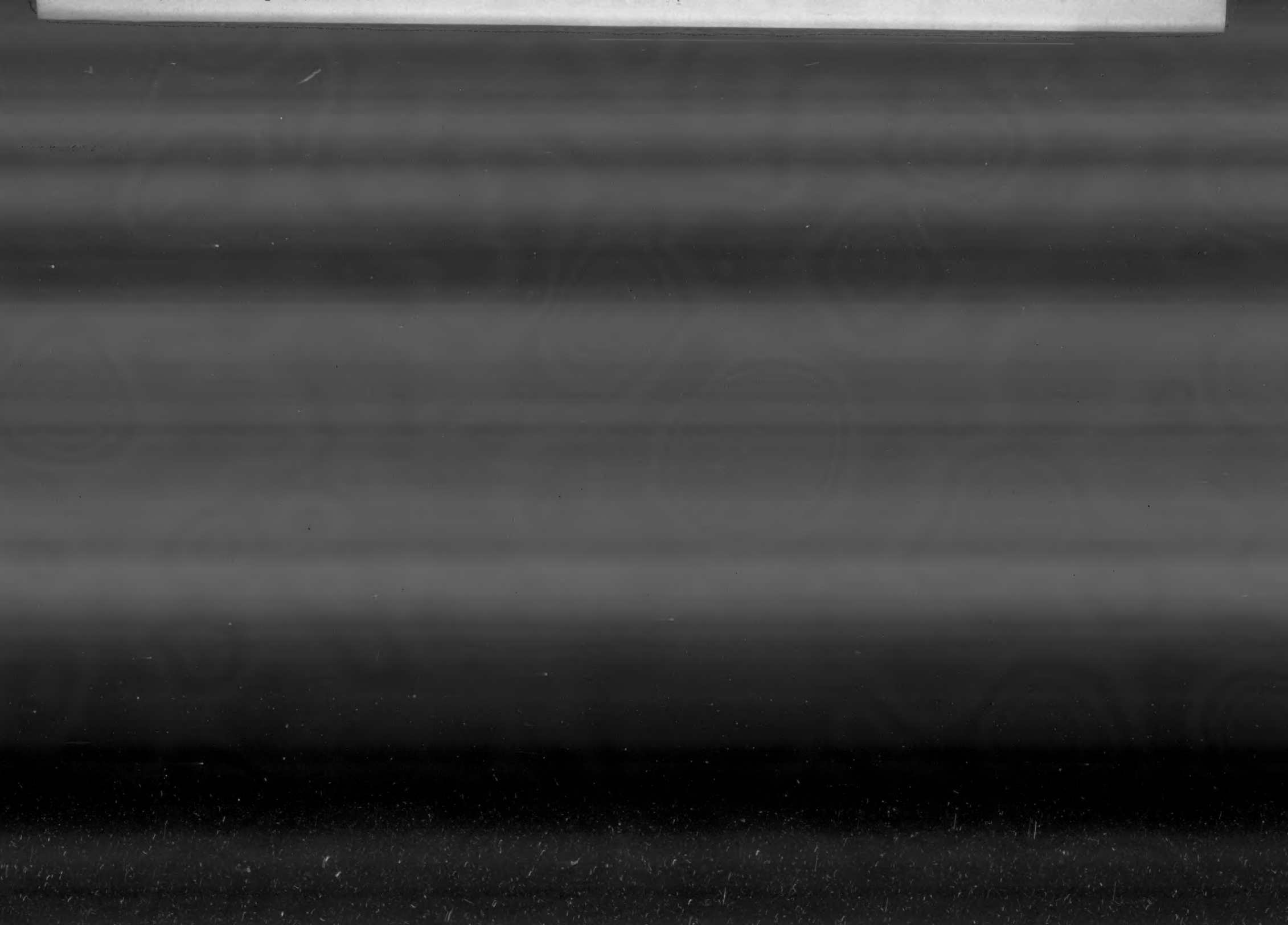


Determining Presence of Oil

. . . by estimation of hydrocarbon content of soil

By MILTON LeBARON
Colorado School of Mines

THE determination of the presence of oil by the estimation of the hydrocarbon content of the soil, is a field in which considerable interest is manifest at the present time. The production-research laboratories of numerous oil companies, and a number of private concerns, are seriously investigating the possibility of scientific correlation of such analyses to oil strata beneath the surface.

Certainly a vast amount of data must be gathered by research methods of the highest type, before the exact answer to this problem can be made.

As to the underlying principles involved, from a geologic point of view, the author does not feel competent to discuss them. It is the purpose of this paper to present various methods for determination of necessary data, and to discuss allied phenomena. Whether or not data so obtained may be applicable to oil prospecting, will depend upon whether the logical assumption of hydrocarbon diffusion is an exact quantiative, qualitative, or indicative function, or simply a figment of the imagination.

The author wishes to divide the discussion into six divisions which follow:

Subsoil and Surface-Soil Wax Determinations

The hypothesis as to the photosynthesis of waxes at the surface from unsaturates, is interesting and theoretically possible. From an examination of the work done in this field, it becomes apparent that a thorough investigation of this point must be made, and included in a research program covering the field. Methods of sampling and analysis are simple and rapid, which may account for the eagerness of some to emphasize wax determinations.

In sampling for wax determinations, the sample is taken just beneath the roots of any surface growth, and again beneath the surface loam. The samples are extracted, and the wax content determined. Two samples are taken for the purpose of correlating the top and subsoil wax content. The following designs are suggested for use in the wax determinations.

The extraction apparatus is a modification of the type used by Dr. Erickson at Louisiana State University in numerous extractions. Fig. 1 shows a diagram of this apparatus. The container *A* with ground-glass top is for the extraction liquid. The vapor passes up through tubes *B* and up into condenser *C*. The condensate collects in the extractor *D*. The level of the extraction liquid in the extractor can be regulated by cock *E*. It is found best to have the sample entirely covered with extraction fluid. The rate of drip through the cock can be regulated to maintain a constant level over a period of hours in the extractor.

In Fig. 2 is shown a diagram of the apparatus for determining the quantity of extract. The extract is contained in *A*. This is dripped into the small weighted container *B*. The flask is heated at a constant rate, evaporating the extraction liquid, which is condensed ready to use again, in condenser *C*. The rate of drip is such to balance the rate of evaporation. The receptacle for receiving the extract should weigh only a few grams. If a 100-g. sample is used, the wax can be determined to one part per million on an ordinary balance, with better results on a micro balance.

The receiver for the wax may be used over and over again without cleaning, collecting a considerable amount. Analyses may be then run to determine the type of wax, and thus postulate its origin. Difference in wax amounts and characteristics in surface and subsoil samples will give valuable information as to origin and to the correctness of the photosynthesis hypothesis.

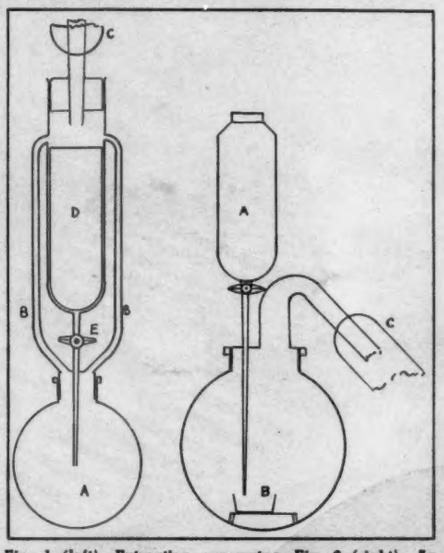


Fig. 1 (left)—Extraction apparatus. Fig. 2 (right)—Assembly for determining quantity of extract

Methods of Sampling

In the determination of the volatile hydrocarbon content of the soil, two general methods are in use. The first consists of obtaining a soil sample and sending it to the laboratory for analysis, and the second consists of obtaining the gas sample at the field and sending it to the laboratory. The first is much easier for the field crew, and the second gives the best results, in a complete analysis. The author would suggest that a research program include the good points of both. In covering a field, soil samples may be taken at frequent intervals and gas samples only occasionally for complete analysis. In areas of interest, both types of samples should be taken.

In obtaining gas samples, the hole for seismic determination should be used, before the firing has taken place. The hole should be drilled and pumped out. A larger bit is next used, reaming out the hole, letting the drillings fall to the bottom of the hole. This clears the sides of the hole of caked drill mud. A plate is next placed over the hole with a flange cutting the earth, and a cock in the center over the hole. The air in the hole is rapidly pumped down to a few millimeters pressure. The pumping should not continue for more than a few minutes. The cock is then shut off and the pressure in the hole allowed to come to atmospheric. This is accomplished through seepage of air into the hole, and by desorption of gases in the soil. The gas in the hole is then pumped into a steel flask and shipped to the laboratory.

Soil samples should be enclosed in air-tight containers to prevent diffusion. The weight taken will depend upon the method of analysis used in the laboratory.

Total Volatile Hydrocarbon Content

There are numerous methods proposed for this determination. The methods may be classified in the following groups:

1. Chemical reactions.
2. Catalytic-oxidation-temperature effect.
3. High-temperature oxidation-temperature effect.
4. Freezing out of condensable gases and subsequent determination.

Chemical reactions.—There are several methods in use that depend upon colormetric changes due to reaction of a specific reagent with the hydrocarbons. The gas containing the hydrocarbons is bubbled through a solution and the color change noted. This type is mostly of a qualitative nature, and quantitative estimations are only of an indicative nature.

Combustion of the hydrocarbons and subsequent determination of the CO_2 is another method in this group. In most samples the CO_2 from the air must be removed before combustion. This necessitates some sort of adsorption train. The very small amounts of hydrocarbon present are usually affected by any train for this preliminary removal. The author understands that in some cases this method has been worked out to an astounding accuracy.

Perhaps determinations of the Sokolokov type should be mentioned here. Some modifications of this type are in use that give very good results. Since this type is discussed fully in the literature, it is only mentioned here in passing.

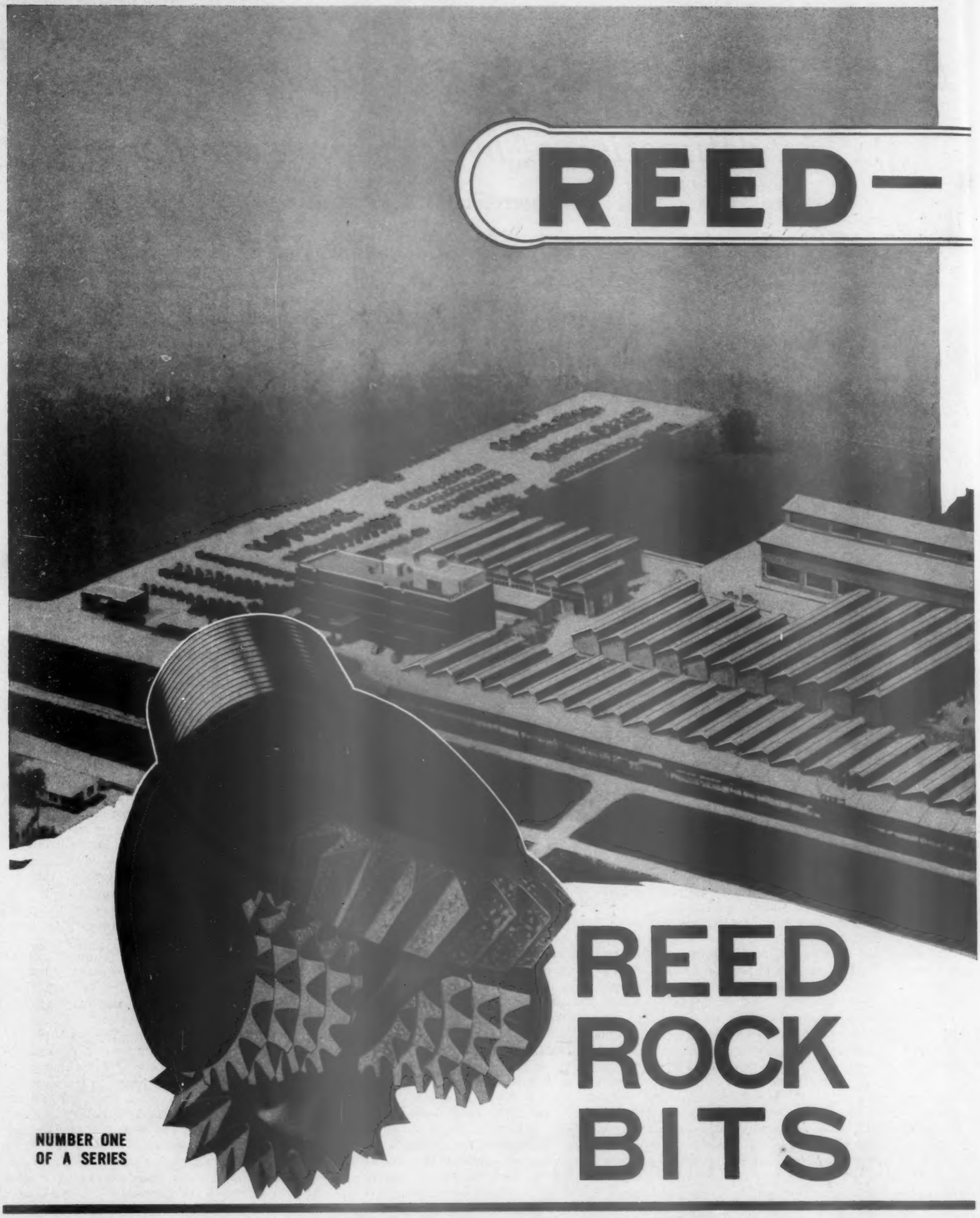
Catalytic oxidation.—In this type of thermocouple or better a thermopile, is covered with, but insulated from, a thin sponge film of platinum or palladium. The gases, usually at a constant temperature, are passed over the catalyst, and oxidized. The increase in temperature is noted, which will be a function of the amount of hydrocarbon present. This instrument is subject to catalyst deterioration, which means frequent calibration and eventual replacement.

High-temperature oxidation.—The gas is placed in contact with a hot platinum wire. A constant current is passed through the wire and change in resistance measured with change in temperature due to oxidation of hydrocarbons on surface of wire. This method is fairly efficient, several patented devices using this principle being on the market. Of course calibration is necessary.

Freezing.—The gas containing the hydrocarbons is passed through a coil surrounded by liquid air. The condensable gases are frozen out. The other gases are pumped off and the resultant mixture determined. An apparatus for this determination will be described below.

In all these determinations the extraction of the gaseous hydrocarbons from the sample is necessary. This may be done by evacuating the

(Continued on Page 46)



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container holding the sample and then sweeping out the sample with air to get all available. Heating of the sample to drive off gases is to be questioned due to decomposition of organic matter that might be present. The effect of heating should be investigated.

Separation of Methane From Higher Constituents

For a thorough investigation of the application of analysis to the field of petroleum production it is necessary to correlate the type of petroleum product, with methane and higher hydrocarbons in the soil. The question is, will a gas field give mostly methane, and an oil field higher compounds. Just what the relationship is, if any exists, should be determined. A separation of constituents originally expressed in parts per million sounds a bit fantastic. This is possible, but for best results, gas samples from the field, which contain much more hydrocarbon per sample are preferable to soil samples of 500 to 1,000 g. a sample. The author considers it best to use the soil samples for total hydrocarbon, and the gas samples for a more complete analysis.

In Fig. 3 is shown a diagram of an apparatus for ultimate analysis of small amounts of hydrocarbons. The following is description of the apparatus and also a discussion of its accuracy. The apparatus consists of coils for freezing out the condensable gases, a gage for determining pressure, and a platinum resistance thermometer for temperature measurements. It also includes a method for determining unsaturates.

The container *A* is for soil samples, the container *B* for gas samples. The gases are drawn through the traps in *C*, through the capillary coils *D* where the gases are condensed by the liquid-air bath. *E* is a platinum-resistance thermometer to measure the temperature of the coils. The vapor pump *F* helps to insure complete evacuation of the system before the pump is admitted. The system is gradually pumped down as low as possible, care being not to go any lower than the vapor pressure of solid methane at the temperature of liquid air. The system is then shut off so that only the Hale modified Pirani gage *G* and the coils are in the system. The coils are allowed to gradually rise in temperature. The pressure variation with temperature is recorded on an automatic system or by visual means. From these data the constituents may be determined. All tubing is capillary and the gage constructed as small as possible to give minimum volume to the system. A McLeod gage may be substituted for the Pirani gage if desired. For high-pressure readings a manometer may be cut in. The gage will record pressures to 0.00001 mm. This will give an accuracy of methane determination of at least one part in 25 million. The accuracy of the

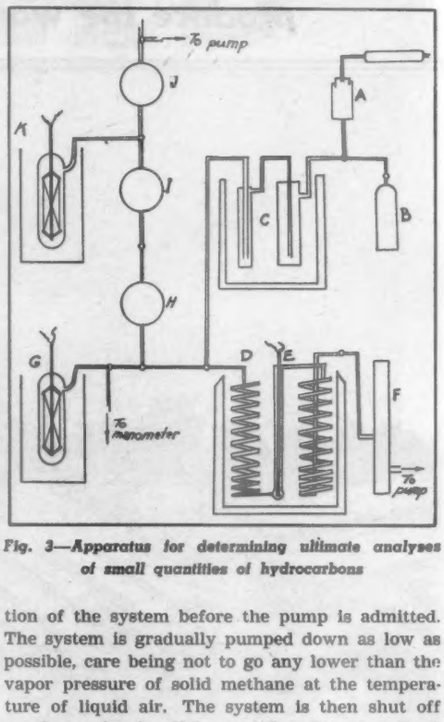

Fig. 3—Apparatus for determining ultimate analyses of small quantities of hydrocarbons

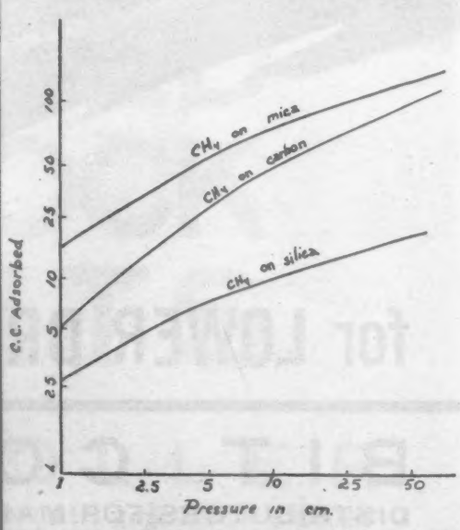

Fig. 4—Effect of soil nature upon its ability to absorb hydrocarbons

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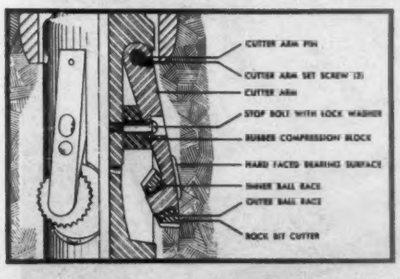

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What's more, you don't have to use pump pressure or drill pipe torque for operation . . . *the cutters expand automatically the instant they pass through the shoe and close automatically when pulled back into the shoe.* Heavy, rugged construction and full stabilization assure rigid alignment, and ample circulation quickly removes all cuttings.

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determination of the other constituents will depend upon how much interfering CO_2 is present, large amounts cutting down on the accuracy.

For the determination of the degree of unsaturation the system at room temperature is allowed to expand into the evacuated bulb *H*. The pressure is noted and the bulb *H* isolated from the system. Bromine is then allowed to pass from reservoir *J* into *I* and *K* until the same pressure is obtained. *J* is then cut out of the system and *H* brought in. The resultant pressure change when compared to calibration results will give the unsaturation.

Calibration of the instrument is necessary. However, after it is once calibrated the calibration is good for the life of the gage.

The determination of unsaturates is rather important for complete correlation of data. A correlation of surface soil wax with unsaturates should be made. The exact usefulness of determining the unsaturates for purposes of strata and oil location is not evident at the present time. However, the possibility of usefulness of the data should not be overlooked. Such data may easily tie into the type of deposit found in the oil sand.

Absorption Characteristics

A point that could easily be neglected by investigators is the difference in adsorption characteristics of various soils. Soils will vary in unit adsorptive properties as much as tenfold. It is impossible to consider that the hydrocarbon content of the soil from diffusion is trapped in the soil. Counter diffusion of air would cut this to a negligible figure. The material must substantially be absorbed on the surface of the soil particles.

In Fig. 4 is shown the adsorption characteristics of three different materials with methane at equilibrium, as determined by Homfray. Clays and sands will vary to even a greater degree.

To determine the adsorption characteristics of each soil sample would be a tremendous job. However, soils should be classified as to their general characteristics and empirical relationships worked out for purposes of comparing different soil types. Thus a clay soil would never be compared with a sandy one directly. Even over a small area the subsoil characteristics will vary considerably. Any thorough research in this field must take this into account.

The author has attempted briefly to outline some of the salient points involved in systematic research of this type of production research. Much time and money must be spent in determining the actual efficiency of this method of prospecting. It is possible to sit down and calculate the exact diffusion and expected distribution of surface concentration through given types of strata. If the diffusion can be shown to be exact and quantitative in oil regions, such calculations which are rather involved, will allow typing of surface patterns, and will result in definite correlation of surface data with oil strata. It is to be hoped that workers in this field will appreciate the magnitude of both the necessary research, and the benefits to industry on successful completion.

Portable Desander Used on Gulf Coast Wells

A producing company operating on the Gulf Coast uses a centrifugal desander mounted on skids in order to make it easier to haul from one well to another. Eight wells are being successfully served at present since the desander is only used during the deeper part of the drilling where heaving shale is encountered.

The operators lost three wells in the area due to heaving shale. They surmised that water loss from the drilling mud, which resulted in heaving shale, was made possible by a porous, sand-bearing filter cake being built up against the heaving shale sections. They reasoned that if they could remove the sand the filter cake would be made impervious. This proved to be the case and since the desander has been adopted for regular use, six wells have been completed with no heaving shale difficulties.

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Another feature which contributes to the greater accuracy of the MacClatchie Weight Indicator is that the fluid is held within the center disc of the diaphragm unit and is protected on both sides by heavy hydraulic rubber diaphragms and a heavy metal covering.

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Carbon Residue Test Not Closely Related to Performance

By W. T. NELSON

Refining authorities have questioned the practicability of carbon determinations on various oils and here the author reviews results of original work investigating the performance of gas oils, lubricants and burner oils

THE Conradson carbon residue test is applied principally to oils for use in internal-combustion engines, for gas manufacture or enrichment, and fuel oils.

Gas enrichment.—The manufactured gases have a relatively low heating value and hence it is common practice to improve the heating value of such gases by spraying gas oil into the gas generator. The generator is at such a high temperature the gas oil readily decomposes into gases such as those found in natural gas but a small part of the oil in deposited on the chamber walls in the form of coke or soot. It is obvious that the destructive distillation the gas oil undergoes is almost identical with the treatment which it undergoes in the Conradson carbon residue test, and hence it is not surprising to find that the carbon residue of a gas oil is a good indication of the amount of carbonaceous residue that will be deposited in a gas enrichment chamber.

To a lesser degree, the carbon residue content of fuel oils is related to the amount of deposits that accumulate in burner nozzles or other heated surfaces but in this instance there are so many other factors that affect the rate of deposition that no great significance can be attached to the carbon residue test of fuel oils.

Internal-combustion engines.—Most of the discussions of the significance of the carbon residue test center about the behavior of lubricating oils in internal-combustion engines. Although diesel engines are internal-combustion engines, the discussion has not been greatly concerned with diesel engines, because in these, the deposits from the lubricating oil are supplemented by deposits from the fuel itself—and the heavier or more viscous the fuel, the greater its tendency to contribute to the deposit in the cylinder. Thus, it is difficult in the case of diesel engines to decide the exact source of engine deposits.

No Definite Relationship

At the outset, it may be stated that no very definite relationship between engine deposits and carbon-residue content has been reported. Although some experimental results have indicated better agreement than others, very little is gained by tabulating all of these data because the results of the many experimentors are not comparable with one another. In Table 1 is shown the results of a single set of engine tests[1] which indicate the general lack of agreement when radically different types of oils are compared. In these tests, every effort was made to be sure that comparable engine conditions were maintained in all tests. The engine was mounted on a dynamometer test block and operated at a speed equivalent to about 40.5 m.p.h. for 40 hours (1,700 total miles). The only consistency that may be noted is the data for the three oils that were supplied by the same manufacturer and which are marked by an asterisk in the table. The fact that less engine carbon was deposited by the oils of higher carbon-residue content, may be accounted for by their higher viscosity. The less viscous oil may have leaked past the piston rings to a greater extent.

It has been stated[2] that fair agreement between engine deposits and carbon residue tests can be had if oils of a single base of crude oil are considered.

TABLE 1—CARBON IN ENGINE VS. CONRADSON CARBON RESIDUE

Carbon residue	Carbon in engine, grams	Carbon residue (used oil)	Kind of oil
.072	5.58	.986	Naphthenic-solvent acid and clay-contact treatments
.128	9.99	.572	Mid-Continent solvent treated
.15*	6.66	1.67	Mid-Continent acid and clay contact
.20	5.27	.954	Mid-Continent solvent treated
.382	6.39	1.884	Mid-Continent acid and clay contact
.54*	6.54	2.046	Mid-Continent acid and clay contact
.752	6.03	2.244	Mid-Continent acid and clay contact
.946	8.28	2.026	Pennsylvania
1.058	8.56	2.986	Mid-Continent acid and percolation

*Same manufacturer.

The factors which appear to contribute to carbon formation are:

1. Volatility of the oil at engine conditions.
2. Stability: (*a*) With regard to extreme heat. (*b*) With regard to oxidizing conditions in crankcase.
3. Type of carbon deposit produced.
4. Mechanical factors.

All of the above factors are somewhat related but they are divergent enough to cause great difficulty in formulating a single test method that will account accurately for the effect of all of the factors. In addition to these, in rare instances the motor fuel may contribute vitally to the amount of engine deposits because of a high gum content—or the air used in the engine and crankcase may contribute large quantities of dust.

There appears to be definite proof that the boiling range or volatility of the oil is of definite significance. Materials whose boiling range is so high that they evaporate very slowly will remain on the combustion-chamber walls for such a long time that decomposition takes place even though they consist of relatively stable type of hydrocarbons. This point is substantiated by Bahlke and others[3] in tests in which the 90 per cent boiling point at a pressure of 1 mm. is found to be related to carbon formation. The suggestion has also been made that the loose or fluffy nature of the deposits that are produced from naphthenic base oils is due to the fact that such oils have a relatively low boiling range and thus the carbon deposition takes place in the oil vapor rather than from liquid on the chamber walls. The carbon residue test is not a direct measure of volatility because much of the oil decomposes before final carbonization takes place.

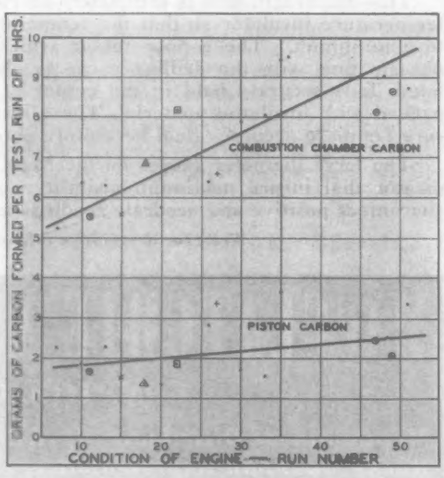


Fig. 1—Effect of engine condition on carbon deposition (Bureau of Mines T.P. 367, 1926)

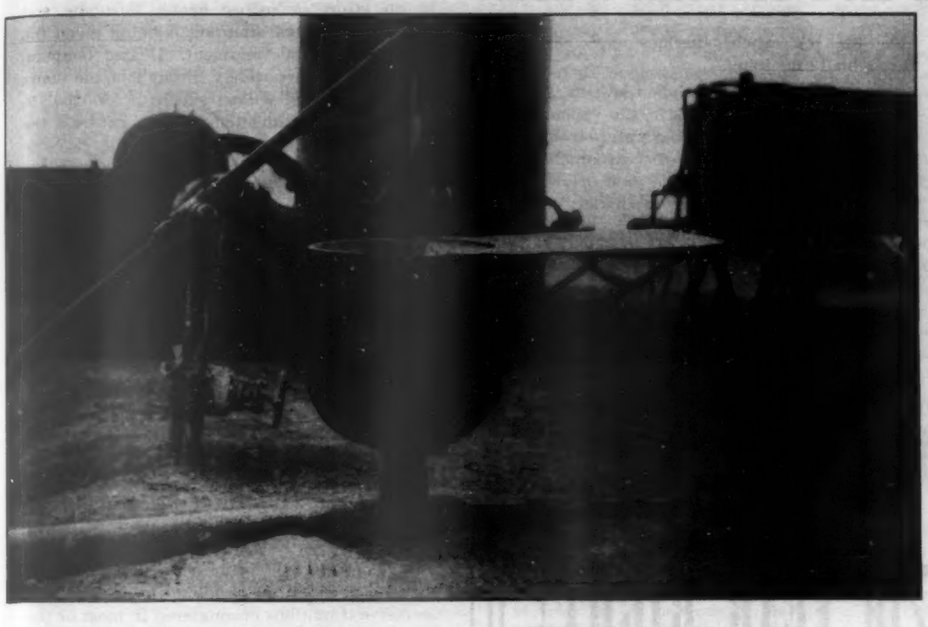
Advantages of Stable Oil

The obvious advantages of having an oil that is stable with regard to heat or oxidation need not be emphasized. The oil should be able to withstand high temperatures without depositing carbon, and it should not become oxidized or produce sludge-like constituents while being circulated through the crankcase. All engine tests indicate that used oils have a higher carbon-residue content than new oils, and hence all oils are sludged or oxidized to some extent in automotive engines. However, even the carbon residues of used oils is not directly related to engine carbon, as can easily be seen in Table 1. Only scant data are available concerning the types of materials that produce carbonaceous deposits. Among these are asphaltenes, carbenes, and floridin tars, and Chernojookov[3] also states that pure paraffin and naphthene hydrocarbons do not form carbon in the carbon residue test.

A truly satisfactory test for carbon-forming properties must take into account the type of carbon deposit that is produced. In actual engine operation the type of deposit plays an important part because tightly adhering deposits may damage the engine mechanism, whereas loose deposits that can be easily removed from the engine walls by moving parts or erosion by gases may give little trouble. This factor is evident in Table 2, which is taken from Livingston and Gruse.[4] In extensive heavy-duty road tests it was found that a naphthenic base oil of relatively high carbon-residue content caused less trouble with engine deposits and the engines

(Continued on Page 51)

Mud Mixer With Rest for Sacks



On deep tests mud-conditioning agents must be added and most contractors rig up a jet-type mud-mixer as part of their circulating system. This particular installation was photographed on one of the world's deepest wells and is unique because the hopper has a steel rest for holding the sacks. The mixer consists of a joint of 6-in. pipe, with built-in jet, reduced to 2-in. pipe. A 4-in. collar is welded in the upper part of the mixer for installation of the hopper. It is important that the dry mud be added slowly and unless a rest is built for the sacks the men have a temptation to rush the mixing. The rack shown here solves this problem as a sack can be laid on it and the flow of dry mud into the jetted stream controlled.

Operating Ideas

Rathole Holds Backup Post in Place

Backup posts are a common sight on rotary drilling rigs as they make the operation of the pipe tongs easier, reduce wear on the snub lines and prevent bending of the tong handles. Their design is generally limited by their location and the position of the mud lines. One Illinois operator has solved this problem on one rig by laying the backup post on top of the mud line and blocking under the front end. The post is prevented from turning over by the guy wire and turnbuckle at the back; it is prevented from sliding forward by the rathole. Lateral movement of the backup post and bouncing due to backlash is prevented by the U-bolts at the front of the assembly.

Covers for Rubber Tires on Spudding Machines

Portability of spudding machines and well-servicing units has been increased during the past several years through the addition of pneumatic rubber tires and truck-type wheels. The tires on the mast end of the machines often receive a liberal spraying of oil as they are located close to the well head. The oil causes the rubber to deteriorate to such an extent that tires must be replaced often when they have practically no road mileage on them. In addition, much of the equipment handled is heavy and has projecting edges; this may hit a tire hard enough to cut it. To prevent this occurrence a cable-tool contractor in the Salem, Illinois, field equipped his new spudding machine with

the steel covers shown here. They are slipped over the tires while drilling and can be easily taken off when it comes time to move to the next location within the field.

Graduated 5-Ft. Stick for Marking Kelly Joint

The rotary driller's 5-ft. stick was formerly used as a rough gage for computing the total footage made per tour and for locating sample points. It was made from a piece of board 5 ft. in length with a piece of rope on the upper end. Jack-post grease or red lead was used for marking the kelly. The increasing

importance of logging the drilling time makes it necessary to mark the kelly in feet and a roughneck for one Illinois operator has made the marking an easy task by adding small pieces of hydraulic packing to each foot on the stick. To mark the kelly it is only necessary to place a small amount of red lead on each tuft and then hold the stick so the tufts will touch the kelly.

Treating Emulsions in Permian Basin

(Continued from Page 35)

heater and other advantages, many operators are using that type plant, however.

In this connection tests were recently run on a thermosiphon treating plant to determine the amount of heat that is automatically circulated by the thermosiphon effect. These tests showed that an average gun barrel heated only by the thermosiphon circulation from an outside heater, connected through the usual 4-in. flow line, with no check valve installed in the water-return line, can heat from 300 to 350 bbl. of oil per day 100° F.; and that is all it can heat regardless of the size of the heater. On tests made to determine the pressure drop caused by a 4-in. check valve, it was found that the resistance offered by the valve was 50 per cent higher than the total head force available for the whole thermosiphon circulation through all the piping.

Circulation in a thermosiphon system is caused by the unbalanced columns of the expanded hot water on one side and the cold water on the other. In this typical plant a head of approximately 1 in. of water was found to be the total driving force available for thermosiphon circulation of water between the heater and the gun barrel. When a check valve was installed in the return line from the gun barrel to the heater it was found that a pressure drop of over 1.35 in. was required to circulate the same amount of wash water as when the valve was omitted, or, almost one and one-half times as much as the pressure drop that was available. Although operators usually install check valves in the return line to prevent flow from the heater through this line, the above tests show such installation is not desirable.

In an effort to reduce heater burnouts and gravity losses, much attention is being given the temperature of the treatment. Heater temperatures employed vary widely throughout the many fields but averages seldom exceed a 180°-200° F. range. As the treating temperature controls the specific gravity of the oil and water, the viscosity of the oil and exerts a far-reaching effect on the overall success of treatment, operators are more fully realizing the importance of using adequate heat without overheating. Overheating, of course, leads to frequent heater troubles and increased gravity losses. In this connection, the practice of holding back pressures on the treating tank is being more widely used in an effort to reduce gravity losses and the amount of corrosion. By maintaining pressures on the tank air, which greatly accelerates the corrosiveness of the hydrogen sulfide gas, is excluded.

Operators also are more fully appreciating the importance of using adequate settling time in the wash tank. This stage is generally carried out in the same tank in which agitation is used, thus the treating tanks are being built to allow sufficient capacity in the settling stage. Where the crude is more nearly the gravity of the accompanying brine, use of adequate settling is highly important.

Corrosive conditions encountered in most of the fields, due either to the hydrogen sulfide or to the character of the brine, are one of the area's worst problems. Thus, type of treating plants in many cases is determined largely on their ability to resist corrosion.

Corrosive-Brine Fields

In the Fuhrman field of Andrews County water produced in some sections of the field is very highly corrosive when heated, so that emulsion-treating equipment is subjected to exceptionally severe conditions. In a few instances crude heaters made of extra heavy steel pipe with hydraulic steel connections were reduced to junk in from 3 to 6 weeks. Analysis of the sulfur water produced with the oil shows that it contains about 4,000 p.p.m. of magnesium and calcium chloride salts. Thus application of heat quickly breaks down or hydrolizes these salts to hydrochloric acid, which is the corrosive agent.

To combat this condition some operators have installed tubular heaters, equipped with cast-iron tubes and flow line, or a vertical heater in which outside water is circulated from the heater to cast-iron coils in a wood treating tank. In the former plant, the tubular heater is used as a flow-line heater; i.e., all production is passed through the heater before it enters a baffled treating tank. Through use of the cast-iron tubes and a cast-iron flow line to the treating tank, corrosion has been practically eliminated. It has been necessary to occasionally remove precipitated solids from the tubes, this being done easily due to the simple construction of the heater, but no marked corrosion has been noticed in its 18 months of operation.

At the lease where the closed heating system is being used, chemical is injected at the central separator and the oil flowed to a wood baffled treating tank into which a set of 2-in. cast-iron coils has been built. Water is circulated from the discharge of a vertical heater by means of a centrifugal pump, driven by a rotary gas motor, through the cast-iron coils and and returned to the heater for reheating. A temperature controller is placed at the heater for controlling the outlet temperature of the water, while a vertical expansion chamber placed in the line between the heater and treating tank takes care of any expansion or contraction of the water. Makeup water is stored in a steel tank and is added when necessary to the closed system, entering at the top of the expansion chamber which is equipped with a sight gage showing the water level.

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By this layout only pure water is circulated through the heater, thus corrosion is practically eliminated at that point. In the treating tank where heat is transferred to the corrosive fluids, use of cast-iron pipe tends to reduce the amount of corrosion encountered there. The cut oil enters the wash tank through a conventional flume, drops to the bottom where the coils are placed and then makes its way upward along sloping pan baffles through the wash water. Sufficient capacity is provided in the top section of the tank to allow adequate settling time so that pipe-line oil is drawn off and run to stock tanks. Water level in the tank is maintained by means of a regular water leg or siphon.

In some instances treating of emulsions is hindered by the primary hardness of the sulfur water. For example, in the Hobbs and Monument areas of New Mexico when the emulsion is heated bicarbonate compounds in solution in the water are broken down to carbonates. As soon as pressure is released they tend to come out of solution and precipitate in the disposal lines. This necessitates taking up the flow line about every 30 days and pounding it with a hammer to remove the carbonate deposition, or using other methods of removing the solids. In many instances, however, it has been found that the emulsion will break without the addition of heat if adequate settling time is allowed while the emulsion is under well pressure.

At these wells emulsion is run from the well head to long inclined water knockouts where water is withdrawn at the bottom and the oil taken through a choke at the top. This method is, of course, also widely used on wells in other fields where the emulsions are relatively loose; chemicals being added when necessary.

Carbon Residue Test Not Closely Related to Performance

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required far less frequent cleaning than when using paraffin base oils. These results were also confirmed in a qualitative way by laboratory engine tests. More recently several naphthenic oils are being marketed for the express purpose of maintaining a clean engine condition and even for the removal of already existing deposits.

TABLE 2—ROAD TESTS OF ENGINE CLEANLINESS[4]

Kind of oil—	Carbon residue	Miles per gal. of oil	Miles per port cleaned	Per cent port area covered per 10,000 mi.
High-carbon paraffinic	1.00	94.6	314	324
Low-carbon paraffinic	0.15	110.0	401	266
Naphthenic	0.70	98.5	1,556	107

Certain mechanical features, such as the condition of the engine or fluidity of the oil, are also contributing factors in the formation of carbon. If too much oil appears above the piston by reason of an overfilled crankcase, loose piston rings, worn pistons, or too low an oil viscosity, carbon deposition will tend to take place because the oil fails to drain away rapidly or thoroughly. Faulty ignition, too hot an engine, or any maladjustment which causes smoky burning will be a contributing factor. An indication of the effect of engine condition on carbon deposition is shown in Fig. 1. The data for this correlation were taken from Technical Paper 387 (1926) of the Bureau of Mines.[6] All of the oils used in this paper had about the same carbon residue (0.07 to 0.145), but after service the carbon residue ranged from 0.2 to 0.5. The particular test runs that are compared in Fig. 1, are those in which the used oil (after test) showed a carbon-residue content of 0.32 to 0.38. Thus, the correlation is only indirectly related to carbon residue and serves no other purpose than to show the general effect of engine condition on carbon formation. In all, the engine was operated a total of about 400 hours in taking the data shown in the figure.

Summary

In general, it may be said that carbon deposition from an oil is not distinctly related to the carbon indicated by the carbon residue test except in those special instances in which oils of the same base (treated in a similar manner) are compared—and special services such as the enrichment of artificial gas by the use of gas oil.

Carbon deposition in automotive engines is dependent on many factors, including boiling range of the oil, stability of the oil to heat or oxidation, viscosity, engine or piston condition, hardness or carbon deposits, dust in the air, and gum-forming constituents in the fuel.

A more suitable test for motor oils would be one which involved simultaneously such factors as simple distillation, oxidation, and destructive distillation, but such a test would yet fail to account for several practical factors.

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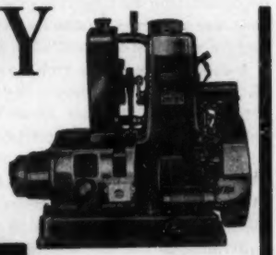

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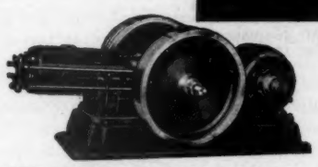

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Cracking Coal-Oil Distillates

(Continued from Page 39)

phenolated precoked distillate, and the original creosote carrier oil as received. Each stock was separately processed in a Dubbs pilot plant using a two-coil integral-type recycle coking operation to produce a 410° F. (210° C.) end-point gasoline and a coke residue. Representative operating conditions and yields are reported in Table 2 while the properties of the products are shown in Table 3. In addition to reporting yields on the basis of the feed stocks to the recycle cracking operations, the overall yields for precoking and subsequent recycle cracking in the first operation, and precoking, dephenolating and recycle cracking in the second case, are reported on the basis of the original primary crude coal-oil distillate as received.

A comparison of the yields and properties of the untreated gasolines shows 39.6 per cent of an 89-octane-number product from the untreated precoked distillate while a 36.7 per cent yield of 79.5-octane-number gasoline was obtained from the dephenolated precoked distillate and a 42.5 per cent yield of 81-octane gasoline from the creosote carrier oil as received. Corresponding yields of coke were equivalent to 184, 199, and 169 lb. per bbl. of charge, respectively, while the gas yields were 970, 966, and 932 cu. ft. per bbl. of charge. The higher-octane rating of the untreated cracked gasoline produced from the acid containing precoked distillate is due to the higher concentration of high antiknock tar-acid fractions. Removal of these fractions in the chemical treatment of the cracked gasoline results in a considerable decrease in octane rating and yield of finished gasoline product; however, these lower-boiling tar acids may be recovered as byproducts of greater value than the gasoline.

Particular attention should be called to the quality of the cokes produced in cracking the various stocks which show an exceptionally low ash content, a low sulfur and volatile-matter content, and a gross heating value of 15,500 to 15,750 B.t.u. per lb.

The gases are considerably higher in methane and hydrogen than the corresponding gases from processing petroleum stocks; however, the propylene and butylenes may be concentrated and further processed by catalytic polymerization to produce a high-octane polymer gasoline. Calculated heating values on the cracking-plant gases range from 1,000 to 1,100 B.t.u. per cu. ft.

In processing the various coal-oil distillate fractions, no particular operating difficulties as regards coke deposition in the tubes of the cracking furnaces or the reaction chamber, were encountered at the conditions shown in this report. Corrosion strips suspended in the coking chamber during the precoking operation indicated a corrosion rate of approximately 0.001 in. per month on both a mild steel and an 18.8 stainless steel. Corrosion strips in the reaction chamber continuously when processing the untreated and the dephenolated precoked distillate indicated corrosion rates of 0.007 in. per month for mild steel and 0.0023 in. per month for stainless steel. When processing the creosote oil the corrosion in the reaction chamber was 0.0037 in. per month for mild steel and 0.0033 in. per month for stainless steel. Due to the nature of the corrosion tests and because of differences between pilot-plant and commercial operation with respect to temperature and duration of runs, these results must be considered as relative only. Previous tests when processing various lignite and coal tars have indicated that high chrome steels are desirable in cracking-plant equipment for these stocks. Excessive corrosion of the tubes and headers of the cracking furnaces, which are made of a 4-6 per cent chromium and 0.5 per cent molybdenum alloy, or in other 18-8 stainless-steel equipment, was not experienced in the pilot-plant tests on the coal-oil distillates.

Due to the refractory nature of the coal-oil distillates, the plant capacity, as indicated by combined feed ratios, is considerably lower than would be encountered in cracking a petroleum stock of similar gravity. A large part of this reduction in capacity may be attributed to the presence of naphthalene and similiar compounds in the coal-oil distillates. When the gasoline end point is limited to 410° F. (210° C.) only a part of this naphthalene is removed from the system with the gasoline, while the remainder, which is little affected by cracking at the temperatures ordinarily used, accumulates in the system as an extremely refractory cycle stock. This reduction in capacity could be compensated for by withdrawing a side-cut fraction boiling between 400°-475° F. from the cracking-plant fractionating column. Such a fraction should contain a high concentration of naphthalene which could be separated by crystallization in pans similar to those used in the coal-tar industry while the oil fraction might be returned to the cracking system for further processing.

Treatment of Cracked Distillates

Since the untreated gasoline distillates contained a considerable quantity of tar acids and bases which are objectionable in such proportions in motor fuels, each of the cracked gasolines produced in the recycle coking operations was given a preliminary treat to remove the tar acids and tar bases by agitation with first an excess of 23.5 per cent sodium hydroxide solution and then a 10 per cent sulfuric acid solution. After removal of the tar acids and bases each of the cracked gasolines was treated with sodium plumbite "doctor" solution to obtain a sweetened product which was inspected for properties.

In a second treat each of the tar-acid and base-free gasolines was treated with 1 lb. of 93 per cent sulfuric acid per bbl. neutralized with caustic soda and rerun using fire and steam in a batch distillation. The gasolines were sweet after rerunning, and no further treatment for sweetening was necessary.

A third treat was made on the tar-acid and base-free gasoline produced from the dephenolated

TABLE 3—PROPERTIES OF CRACKING PLANT PRODUCTS

Charging stock to cracking plant—	Primary crude-coal-oil distillate	Precoked primary crude-coal-oil distillate				Creosote carrier oil	
		Untreated		Dephenolated			
Properties of untreated gasoline:							
Gravity, °A.P.I.	....	30.6		38.2		36.1	
Specific gravity at 60° F. (15.6° C.)	....	0.873		0.834		0.8443	
Vapor pressure, Reid, lb.	....	4.9		7.8		6.4	
Sulfur, per cent	....	0.36		0.37		0.40	
Tar acids, volume per cent	....	22.9		2.6		5.1	
Tar bases, volume per cent	....	1.3		1.6		2.2	
Octane-number motor method	....	89		79.5		81	
100 cc. A.S.T.M. distillation:		°F.	°C.	°F.	°C.	°F.	°C.
Initial boiling point	....	132	56	121	49	123	51
5 per cent	....	159	71	185	85	175	79
10	....	174	79	220	104	207	97
20	....	241	116	265	129	259	126
30	....	275	135	291	144	291	144
40	....	296	147	310	154	315	157
50	....	315	157	326	163	331	166
60	....	330	166	338	170	346	174
70	....	344	173	351	177	360	182
80	....	356	180	368	187	375	191
90	....	373	189	392	200	392	200
95	....	386	197	420	216	407	208
End point	....	410	210	429	221	425	218
Per cent over	....		99.0		97.0		98.0
Per cent bottoms	....		1.0		1.5		1.0
Per cent loss	....		0.0		1.5		1.0
Composition, liquid volume, per cent:							
Propylene	....		0.06		0.32		0.29
Propane	....		0.12		0.66		0.61
Isobutylene	....		0.41		0.47		0.51
1-Butylene	....		0.47		0.62		0.63
2-Butylene	....		0.41		0.53		0.56
Isobutane	....		0.35		0.36		0.51
n-Butane	....		0.91		1.09		1.35
Pentanes to 115° F. (46° C.)	....		3.54		4.58		5.09
Fractions boiling above 46° C.	....		93.73		91.37		90.45
Total	....		100.00		100.00		100.00
Properties of coke, proximate analysis, per cent by weight:							
Moisture	0.29		0.32		0.35		0.27
Ash	0.18		0.37		0.11		0.15
Volatile matter	7.12		5.80		5.62		5.51
Fixed carbon (by Diff.)	92.41		93.71		93.92		94.07
Total	100.00		100.00		100.00		100.00
Sulfur, per cent by weight	0.59		0.52		0.47		0.42
Apparent density	0.996		1.159		1.084		1.076
True density	1.398		1.359		1.361		1.375
Cell space, per cent	28.8		14.7		20.4		21.7
Gross heating value, B.t.u., per lb.	15,500		15,670		15,750		15,675
Properties of gas density (air = 1.00)	0.64		0.63		0.67		0.70
Composition, per cent by volume:							
Hydrogen	17.4		25.0		22.9		18.0
Nitrogen	3.5		4.2		3.1		14.9
Oxygen	0.2		0.0		0.1		0.0
Carbon monoxide	2.0		1.3		0.6		1.5
Methane	61.8		52.0		50.5		42.9
Ethylene	0.5		1.0		1.1		1.3
Ethane	10.1		8.7		10.2		10.1
Propylene	0.6		1.3		2.0		1.7
Propane	2.4		3.1		4.6		4.4
Butylenes	0.4		0.9		1.4		1.3
Butanes	0.5		1.2		1.7		1.7
Pentanes and heavier hydrocarbons	0.6		1.3		1.8		2.2
Total	100.0		100.0		100.0		100.0
Unsaturates, total	1.5		3.2		4.5		4.3
Propylene and butylenes	1.0		2.2		3.4		3.0
Pentanes and heavier hydrocarbons:							
(As liquid), gal. per 1,000 cu. ft.	0.22		0.47		0.66		0.80
Per cent by volume of charge (100 per cent recovery)	0.1		1.1		1.5		1.8
Hydrogen sulfide (Tutwiler):							
Grains per 100 cu. ft.	640		830		700		700
Volume, per cent	1.0		1.3		1.1		1.1
Calculated heating value:							
B.t.u. per cu. ft.	990		1,000		1,100		1,020
Kg. cal. per cu. meter	8,800		8,900		9,789		9,080

TABLE 4—TREATMENT OF CRACKED GASOLINE DISTILLATES

Charging stock to cracking plant—	Precoked primary crude-coal-oil distillate									Creosote carrier oil				
	Untreated	Tar acids and bases removed			Dephenolated	Tar acids and bases removed					Tar acids and bases removed			
Preliminary treatment of gasoline:	None				None					None				
Additional treatment of gasoline:	None	None	Doctor sweetened	1 lb. acid	None	None	Doctor sweetened	1 lb. acid	10 lb. acid	None	None	Doctor sweetened	1 lb. acid	10 lb. acid
Treating losses:														
Tar acids removal	....	22.9	22.9	22.9	....	2.6	2.6	2.6	2.6	....	5.1	5.1	5.1	5.1
Tar bases removal	....	1.3	1.3	1.3	....	1.6	1.6	1.6	1.6	....	2.2	2.2	2.2	2.2
Acid solution loss	....	....	....	0.9	....	....	....	1.1	3.3	....	....	....	1.3	3.8
Polymerization loss	....	....	....	1.2	....	....	....	1.7	3.8	....	....	....	1.6	4.2
Distillation loss (approx.)	....	....	....	1.0	....	....	....	1.0	1.0	....	....	....	1.0	1.0
Total loss	....	24.2	24.2	27.3	....	4.2	4.2	8.0	12.3	....	7.3	7.3	11.2	16.3
Properties of gasolines:														
Gravity, °A.P.I.	30.4	39.0	39.1	39.5	37.6	39.1	39.2	39.7	39.6	36.5	38.8	39.0	39.8	40.0
Specific gravity at 60° F. (15.6° C.)	0.874	0.830	0.829	0.828	0.837	0.829	0.829	0.827	0.827	0.842	0.831	0.830	0.826	0.825
Vapor pressure, Reid, lb.	4.5	5.2	4.2	3.7	6.7	5.8	5.7	3.1	3.0	6.2	6.0	5.7	3.5	3.1
Mercaptan sulfur, per cent	0.012	0.006	....	....	0.06	0.002	....	....	....	0.07	0.008	....	....	....
Total sulfur, per cent	0.36	0.38	0.38	....	0.37	0.38	0.38	0.32	0.25	0.40	0.40	0.40	0.40	0.34
Octane number, motor method:														
Without lead	89	79	79	78	79.5	75	74.5	75	73	81	75	74.5	75	73
With TEL, 3 cc. per gal.	....	....	82.5	....	....	....	80.5	....	....	....	....	80.5	....	....
Octane number, research method:														
Without lead	....	....	90.5	....	....	....	87	....	....	....	....	87	....	....
With TEL, 3 cc. per gal.	....	....	94.5	....	....	....	93	....	....	....	....	93	....	....
Doctor test	Pos.	Pos.	Neg.	Neg.	Pos.	Pos.	Neg.	Neg.	Neg.	Pos.	Pos.	Neg.	Neg.	Neg.
Color Saybolt	Dk. Red	Brown	Brown	Yellow	Dk. Red	Brown	Brown	17	29	Dk. Red	Brown	Brown	Yellow	24
Color stability*	....	....	....	....	....	....	....	....	18	....	....	....	....	20
Gum, A.S.T.M., mg. per 100 cc.	....	....	44	....	....	....	11	....	10	....	....	21	15	8
Gum, cu. dish, mg. per 100 cc.:														
Without inhibitor	3,800	129	246	60	1,400	251	269	382	40	2,800	125	117	205	35
With U.O.P. No. 4, 0.005 per cent	....	....	....	20	....	....	....	121	....	....	....	....	240	....
With U.O.P. No. 4, 0.01 per cent	....	....	191	....	....	....	189	....	....	....	....	92	....	....
Induction period, minutes:														
Without inhibitor	1,080+	1,080+	1,080+	580	1,000+	610	510	365	1,880	2,800+	2,800+	2,800+	1,000+	1,895
With U.O.P. No. 4, 0.005 per cent	....	....	....	745	....	....	....	600	....	....	....	....	1,000+	....
With U.O.P. No. 4, 0.01 per cent	....	....	1,080+	....	....	....	685	....	....	....	....	2,800+	....	....
100 cc. distillation (°F.):														
Initial boiling point	120	128	124	127	105	119	115	134	138	104	113	114	130	144
10 per cent	174	191	193	204	211	213	206	227	222	198	198	191	208	199
50	318	293	293	293	327	320	318	311	322	328	324	323	311	314
90	378	371	371	370	382	389	387	368	386	392	394	399	372	376
End point	413	414	416	405	436	425	426	403	414	424	425	425	413	408
100 cc. distillation (°C.):														
Initial boiling point	49	53	51	53	41	48	46	57	59	40	45	46	54	62
10 per cent	79	88	89	96	99	101	97	108	106	92	92	88	98	93
50	159	145	145	145	164	160	159	155	161	164	162	162	155	157
90	192	188	188	188	194	198	197	187	197	201	201	204	189	191
End point	212	212	213	207	224	218	219	206	212	218	218	218	212	209

*After exposure equivalent to 2 hours midday June sunlight.

distillate and the creosote carrier oil using 93 per cent sulfuric acid in the proportion of 10 lb. per bbl. of gasoline. After neutralizing with caustic soda and rerunning, the gasoline was sweet.

Complete results of the treating tests, including treating losses and properties of the various treated products, are reported in Table 4.

In the preliminary treatment of these gasolines the tar acids can be easily recovered from the caustic phenolate solutions. The tar acids, which represented 22.9 per cent of the untreated cracked gasoline produced in cracking the acid-containing precoked distillate (7.7 per cent of the primary coal oil), were liberated from the phenolate solution by treatment with carbon dioxide. Inspection of the tar-acid fraction showed a specific gravity of 1.070 while 80 per cent of the fraction boiled in the range from 316°-392° F. (158°-200° C.). A tar-acid fraction of this boiling range should consist largely of the valuable phenols and cresols. Similar tar acids were recovered from the other cracked-gasoline distillates; however, the quantities available were considerably lower since the cracking stocks from which the gasolines were produced contained a lower concentration of high-boiling tar acids.

In each case the removal of the tar acids and bases results in a reduction in octane rating with a marked decrease in the gum-forming constituents as indicated by the copper-dish evaporation test.

Although treatment with sodium plumbite solution gives sweetened products, the rather high gum contents and dark-brown color would limit the proportions in which such materials might be blended with commercially marketed gasolines.

Particular attention is called to the 11 to 12-point increase in antiknock rating by the research method over the motor method, which is considerably greater than the differential for cracked gasoline from petroleum stocks. Such an increase is significant because of its relation to actual performance in an automotive engine. It is generally agreed that a cracked gasoline containing aromatics and unsaturates will have a higher road rating than is indicated by the motor method. In the United States an average of the research and motor-method ratings has been found to give a better indication of the road-rating value than the motor method alone. In certain European countries, particularly Germany, the research method is considered to be the more accurate indication of the road value. This finding also applies in the United States for certain cars.

The mildly (1 lb.) acid-treated gasolines might be more effectively used as blending agents due to an improvement in color which changed to a clear yellow after acid treating as compared to the dark-brown color after doctor sweetening. In treating the gasoline produced from the acid-containing precoked distillate, a marked reduction in gum content was evident. Several gasoline blends were made in order to determine the effect on octane rating when using the 1-lb. acid-treated gasolines in blends with both straightrun and cracked gasolines from petroleum stocks. These tests indicated that the motor-method octane ratings of both the 70-octane-number straightrun and cracked gasoline could be increased by 1.5 to 2 points upon the addition of 25 per cent of the treated coal-oil gasolines in the blends. Chemical analyses of the 1-lb. acid-treated gasolines are reported in Table 5. The aromatic content of the gasoline produced from cracking the acid-containing precoked coal-oil distillate is much higher than for cracked gasoline from petroleum stocks.

By the use of larger quantities of acid in treating the gasoline from cracking coal oil, as demonstrated by the 10-lb. acid treats, it is possible to produce finished gasolines.

TABLE 5—CHEMICAL ANALYSIS OF TREATED GASOLINES

Cracking stock—	Untreated precoked primary distillate	Dephenolated precoked primary distillate	Creosote carrier oil
Gasoline composition, volume, per cent:			
Aromatics	45	34	40
Unsaturates	22	29	25
Naphthenes	16	14	10
Paraffins	17	23	25
Total	100	100	100

Conclusions

The primary crude coal-oil distillate derived from the carbonization of English coal may be most successfully cracked by first processing the oil as received in a once-through precoking operation with subsequent two-coil recycle cracking of the precoked distillate to produce a high-antiknock gasoline, gas and a coke residue. When cracking the untreated precoked distillate a part of the higher-boiling tar acids are simultaneously converted to the more valuable low-boiling tar acids which are recovered along with the gasoline. An alternate operation in which the precoked distillate is first treated for the removal of tar acids and the neutral oil is subsequently cracked shows similar yields of a lower-octane finished gasoline on the basis of the original coal-oil distillate.

After treatment for the removal of tar acids and bases followed by a 1-lb. sulfuric acid treat, a 78 motor-method octane-number gasoline is produced which may be utilized as a blending agent with gasolines from petroleum stocks. Treatment with higher concentrations of acid gives a finished product which may be used directly as motor fuel.

By absorption of the pentanes and heavier hydrocarbons in the cracked gases and catalytic polymerization of the propylene and butylenes contained in the products, the overall yields of 1 lb. acid-treated gasoline are increased to 26.4 volume per cent for precoking and recycle cracking of the untreated precoked distillate; 28.2 per cent (including dephenolation losses) for precoking, dephenolating and cracking of the neutral precoked distillate; and 41.5 per cent for cracking the creosote-carrier oil as received.

The availability and workability of 18-8 stainless steel together with its excellent physical properties makes this alloy particularly desirable for service in equipment for the cracking of coal-oil distillates and fractions therefrom which contain tar acids.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Fuel Oil Does Not Ignite at Normal Temperatures Unless Contaminated

Under what conditions does fuel oil for diesel engines become inflammable? It is my understanding that it is the common practice to deliver gasoline in truck tanks and after delivery the same tank filled with fuel oil for another delivery. What preparations are necessary in conditioning such a gasoline truck for fuel oil to be assured that no gasoline is left in the truck tank?—S. R. B.

The specifications for fuel oils contain requirements for flash point varying from 100° to 150° F., but most of the oils of this class have much higher flash points. Consequently the standard fuel oils would have to be heated or atomized to render them inflammable. Of course, the addition of gasoline to any heavier oil, such as distillate, lubricating oil or fuel oil, would put it into condition to be inflammable at ordinary temperature. However, any fuel oil containing gasoline could not be classified as fuel oil.

It is not the common practice to frequently change a tank truck from gasoline to fuel oil service because of the expense involved. A tank that has contained fuel oil must be thoroughly cleaned before it can be used for gasoline, for any small trace of fuel oil would impart enough color to gasoline to render it unacceptable to the distributor. Once a truck is used for delivery of fuel it is continued in that service. Many of the tanks on trucks are of the compartment type, of which the division into three tanks is in extensive use for the delivery of gasoline, kerosene and fuel oil. A very small quantity of gasoline added to fuel oil will make it flash at normal temperatures, so the conditioning of a gasoline tank or compartment for fuel oil would require complete removal of all gasoline and the treatment should include thorough steaming followed by washing with water and finally steaming again. Every trace of water must be removed.

The method of building the tanks for trucks varies, all manufacturers endeavor to design tanks so that there will be no chance for one liquid to escape into the adjoining compartment. The bulkheads are so joined to the outside walls that leaks are not possible. Some states require that the tanks for the delivery of more than one product shall be of special design. The details of this requirement varies in the several states.

Interpretations Made From the Ash of Grease

What is the standard scheme for the interpretation of the ash from grease?—E. H. D.

The American Standards Association has approved the A.S.T.M. Standard Method of Analysis of Grease. The qualitative examination of the ash is:

"An easily fusible ash, dissolving completely in water to give a strongly alkaline solution, indicates a grease containing sodium, potassium, or both. A white infusible ash, practically insoluble in water, but imparting to it an alkaline reaction, may indicate calcium, with or without magnesium or aluminum. Zinc is shown by the yellow color of the ash while hot, and lead may be indicated by the presence of metallic globules, or by the yellow color of the ash when cold.

"The ash shall be dissolved in diluted HNO_3 or HCl, and the presence of the several bases confirmed by suitable chemical tests, any standard scheme of qualitative analysis being followed."

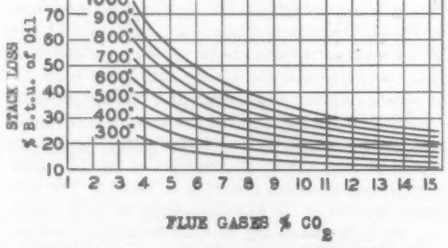
Stack Temperature and Relation to Carbon Dioxide Content

What is the relation of carbon dioxide in flue gases to the stack temperature when oil is used as the fuel? Does a high stack temperature mean that the gases passing off from the stack must contain a high percentage of carbon dioxide?—P. L. H.

The temperature of the gases and vapors in a stack is an indication of the efficiency of the furnace and the boiler to use, absorb, the heat of combustion. While design of the boiler, furnace, and stack are important factors, it is generally true that adjustments and handling of the fuel are responsible for abnormal stack temperatures. The subject is discussed in a circular of the National Bureau of Standards, from which extracts have been made.

High stack temperatures where oil is the fuel are related to: (1) Improper design of the combustion chamber; (2) excessive firing rate adjustment; (3) excessive draft; (4) dirty boiler or furnace flues. With proper burning equipment and adequate performance for the load, high stack temperatures generally indicate (1) an undersized boiler or furnace, or (2) insufficient or poorly designed heating surface in the boiler or furnace.

Proper evaluation of stack temperatures must consider the carbon dioxide content of the flue bases. These indicate stack losses, or percentage of heat in the fuel which goes up the chimney. The illustration shows this relationship.



Stack Losses for Combustion of Oil Distillates

"It will be noted that with 8 per cent carbon dioxide and a stack temperature of 400°, the stack loss is approximately 18 per cent; with 13 per cent carbon dioxide the temperature can be raised to 600° without increasing the percentage of stack losses. While excessively high stack temperatures are usually objectionable, because of increased stack loss, excessively low stack temperatures due to either poor design or underfiring of boiler or furnace may be equally objectionable in that they may be inadequate for the maintenance of proper draft and, further, the condensation, in the chimney of water vapor from the combustion gases can be highly destructive to certain materials." The chart indicates that there is no relation between high temperature and high carbon dioxide content of the flue gases.

Reference: Automatic Mechanical-Draft Oil Burners Designed for Domestic Installations, National Bureau of Standards, 1939. Illustration from Technical Bulletin 109, U. S. Dept. of Agriculture.

Porosity and Saturation Applied to Producing Oil and Gas Sands

It will be appreciated if you will furnish the following information relative to the volumetric estimation of underground oil: definition of the word saturation; also, the distinction between porosity and saturation.—J. H. S.

The petroleum industry uses the words porosity and saturation when estimating the volumetric capacity of an oil or gas sand, which is based on the voids. The saturation is the extent to which these voids are filled with oil. A brief discussion of the subject as it relates to field conditions will serve to explain how the words are applied.

Ordinary dry sand, when packed into a bucket, will hold nearly 50 per cent of liquid by volume but the oil-producing sandstones show a capacity, or porosity, for a liquid of from 15 to 25 per cent. The maximum possible pore space in sandstone consisting of spherical grains packed as tightly as possible according to the investigations of Schlichter is approximately 25 per cent by oil, whereas the least compact arrangement will permit a porosity of 47.6 per cent. The determinations made by many investigations on sandstones for building purposes and the specimens from wells indicate an average porosity of about 17 per cent. The rich Bartlesville sand of Oklahoma shows a range of porosity from 12 to 39 per cent, some of the pay sand in Pennsylvania has the low porosity of 7 per cent and the gas sands of Louisiana have the very high of 41 per cent.

If all of the pore space is filled with oil the saturation is 100 per cent. This condition is seldom found, as part of the voids are filled with gases and water. The quantity of oil recovered may vary from 20 to 40 per cent of the oil contained in the sand, and seldom exceeds 50 per cent. There are several factors that must be considered with porosity and ultimate recovery.

Heavy oils do not give high yields because of their slow moving nature, or high viscosity, and the tendency to stick to the sand. A light oil, found in a coarse sand, such as that produced from the Bartlesville sand of Oklahoma, flows easily and consequently gives high yields much more than a heavy oil from a sand of the same porosity.

The absolute porosity includes the total of all voids regardless of whether they contain gas or liquid. The effective porosity has been defined by Coberly and Stevens as "The volume of interparticle spaces which communicate with passages of sufficient size to permit the entrance or recovery of gas or oil, expressed as a percentage of the total rock volume." Very closely related to these terms is effective saturation, which means the precentage of effective pore space which is filled by oil or natural gas.

References: C. S. Schlichter, Theoretical Investigation of the Motion of Underground Water. U. S. Geol. Survey, 19th An. Rpt. Pt. 2, 310, 1899.

C. J. Coberly and A. B. Stevens, Development of a Hydrogen Porosimeter, Trans. A.I.M.E., 103, 261, 1933.

FIELD OPERATIONS

Summarizing the Week's Developments

OKLAHOMA—A Caddo County wildcat, southeast of Carnegie, found an oil showing in Wilcox sand at 9,175-95 ft., and was preparing to test. A new pay was uncovered on the Cement townsite, southeastern Caddo County. An old shallow well near Muskogee, eastern Oklahoma, was deepened to Arbuckle lime and gave promise of opening a pool in that zone.

KANSAS—The North Bornholdt discovery well in McPherson County flowed at the rate of 50 bbl. of oil daily. Offsetting the Rice County line, it assures another two-county drilling campaign in Kansas. Linking of the Ellinwood and West Ellinwood pools in Barton County was indicated when a midway test found saturation in Arbuckle lime. Another outpost gave promise of extending the Ellinwood pool ½ mile northwestward.

MISSOURI—Attention of Forest City basin operators shifted back to Missouri when a showing of oil in Hunton lime was reported at a wildcat near Queen City, Schuyler County. Oil was bailed at the rate of 1 gal. to the bailer before the well was shut down for casing.

OHIO—The largest gas well in Ohio in several years was completed in Knox County near Mount Vernon. It yielded 12,000,000 cu. ft. on initial gage.

ILLINOIS—Production dropped to 329,572 bbl. per day as an average for last week, a decline of 2,968 bbl. per day. Three Devonian-lime completions in the Salem field produced 9,280 bbl. initially, an average of 3,093 bbl. per well. Pure Oil Co. started a 7,500-ft. test in the Cisne field in Wayne County which should test Devonian lime and perhaps horizons below that formation.

CALIFORNIA—Southeast Coalinga field was extended southerly by a 4,236-bbl. initial producer, total depth 7,911 ft. Five wells were completed in Southeast and Northeast Coalinga, all of them prolific of oil and gas. A 3,280-bbl. well in the Rio Bravo field, total depth 11,480 ft., focused attention on that area.

TEXAS: Gulf Coast—A distillate pool is in prospect in Fort Bend County, Texas, and wildcat in La Fourche Parish, Louisiana, appears to be a pool opener.

Southwest Texas—Five deep tests each seeking Sparta-Wilcox production have been started in Southwest Texas.

North and East Texas—The fifth deep oil pool in Clay County is indicated by four saturated sands in a wildcat in the southwestern part of the county.

West Texas—The first oil pool of the year was found in Crockett County in a shallow formation, total depth 1,220 ft. Nine new operations were started in the Cummins-Goldsmith pool in Ector County.

LA-ARK-TEX—The Dorcheat field in Columbia County, Arkansas, was extended southwesterly by a 144-bbl. well at 8,864-67 ft.

Completions in All Fields

(Week Ended January 6, 1940)

	Oil	Gas	Dry	Total	1940 total comp. to date	1939 total comp. to date
N. Y., Pa., and W. Va.	56	11	3	70	136	130
Ohio	3	10	5	18	47	36
Indiana	1	1	1	3	15	0
Kentucky	5	0	4	9	15	18
Illinois	42	1	21	64	118	166
Michigan	12	0	9	21	57	27
Kansas	16	1	4	21	50	31
Oklahoma	13	7	8	28	66	54
Texas:						
North Central Texas	28	0	18	46	111	59
West Texas	35	0	2	37	79	58
Texas Panhandle	10	0	0	10	21	15
East Texas	1	0	0	1	5	29
East Central Texas	1	4	3	8	15	10
East Texas Border	1	0	0	1	2	2
Gulf Coast Texas	22	0	6	28	57	39
Southwest Texas	20	2	13	35	92	62
Total Texas	118	6	42	166	382	274
North Louisiana	13	4	3	20	22	17
Gulf Coast Louisiana	20	0	3	23	44	21
Total Louisiana	33	4	6	43	66	38
Arkansas	5	0	3	8	13	11
Montana	1	2	3	6	10	3
Wyoming	2	1	0	3	7	1
Colorado	0	0	0	0	0	0
New Mexico	12	1	1	14	24	24
California	17	0	2	19	40	22
Total United States	336	45	112	493	1,046	835
Total previous week	381	43	129	553		
Week ended Jan. 7, 1939	311	53	85	449		

Outstanding Fields—Highlights

(Week Ended January 6, 1940)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	30	40	2	1,808	1,228	25,500
Wasson-Bennett	22	78	14	12,609	586	23,967
Ector County	13	79	14	11,669	1,983	52,598
Pecos County	7	24	0	0	1,221	34,250
Jones County	4	20	5	2,992	603	7,900
East Texas	7	16	1	30	26,151	394,547
OKLAHOMA						
St. Louis	4	30	3	755	917	34,250
Cement	4	18	1	2,421	281	6,300
KANSAS						
Barton County	4	21	1	249	518	16,660
Ellis County	4	18	0	0	468	11,365
Rice County	5	24	4	1,031	1,419	26,105
Russell County	5	29	3	1,025	1,389	27,625
NEW MEXICO						
Lea County	9	47	6	3,422	2,346	96,110
Eddy County	8	67	6	3,890	488	13,490
LA-ARK-TEX						
Cotton Valley, La. (deep)	1	5	2	670	150	12,295
Magnolia, Ark.	0	9	0	0	82	19,635
MICHIGAN						
Freeman-Redding	1	10	1	1,000	133	16,271
Kent County	5	49	6	1,875	253	16,717
CALIFORNIA						
Montebello	2	25	2	1,055	327	27,150
ILLINOIS						
Salem	20	75	17	15,774	1,558	185,462
Louden	4	45	5	643	1,281	68,485
Other basin fields	31	246	20	2,314	2,030	67,559
Old fields	....	.....	....	.....	.....	8,098

Illinois, Indiana and Kentucky

By STAFF CORRESPONDENT

Production in Illinois Drops; Big Wells in Devonian Lime

MATTOON, Ill., Jan. 8.—Production of Illinois fields in the past week dropped to 329,604 bbl. per day, with Salem producing an average of 185,462 bbl.; Louden, 68,485 bbl., and other basin fields 67,559 bbl. The old fields produced 8,098 bbl. Forty-two oil wells were completed with a total initial production of 18,731 bbl. Twenty-one dry holes in 10 counties and one gas well in Lawrence County rounded out 64 completions. Fifty-nine new operations were reported, led by Marion County with 22 new starts.

Four large producers were completed in the Salem field in Devonian lime. Thirteen Devonian tests were started in the Salem area last week. Pure Oil Co. spudded a deep test in the Clsne field in Wayne County, No. 1 Billington in Section 27-1n-7e. It is contracted to 7,500 ft., and it is said no information will be given out as to the log until the well has been completed. This hole should penetrate the Devonian lime and even deeper-lying formations. It will be drilled with great care after the McClosky lime has been passed, cores of every formation below the McClosky will be taken.

Following is the completion record of the week, the initial production figures representing 24 hours unless otherwise stated:

Flock of Abandonments

In Wabash County Jackson & Greer's No. 1 Garst, SE SE NE Section 33-2s-13w, was abandoned at 510 ft. Pearson and others' No. 1 Eyler, SW cor. NE NE SW Section 9-2s-13w, was abandoned in Bridgeport sand at 1,493-1,509 ft., which contained only water. Harry Randall and others' No. 2 Schultz Community, SE NW SW Section 31-2s-13w, was dry and abandoned at 2,124 ft.: Waltersburg sand at 2,015-31 ft. and Vienna at 2,094-99 ft. Phillips Petroleum Co.'s No. 9 Schultz, NW NW SW Section 7-3s-13w, shot with 6 qt. in Cypress sand at 2,546-51 ft., dry and abandoned.

In White County O'Meara and Johnston abandoned location for No. 1 Bennett, NE cor. SE NW Section 24-6s-9e. Ray Johnston abandoned location for No. 1 Faught, NW SE NE Section 26-6s-9e. Tatum and others abandoned location for No. 2 Aud, NW cor. NE NW NW Section 26-6s-9e.

In Marion County Shell Oil Co., Inc.'s No. 5 Verners. SW cor. NW SW NW Section 18-3n-1e, Benoist sand at 1,418-43 ft., dry and abandoned.

In Effingham County Dunbar & Wingate's No. 1 France, NE NW SW Section 1-4n-4e, was dry and abandoned. McClosky lime was penetrated from 2,649-80 ft., total depth 2,692 ft. No showings were reported throughout the operation.

In Perry County Cochrane and others' No. 1 Pyramid Coal Co., NE NW SE Section 35-5s-3w, Fredonia lime top at 1,613 ft., total depth 1,655 ft., was dry and abandoned.

In Randolph County A. F. Fisher's No. 1 Uchtman, SW cor. NE NW Section 7-6s-5w, St. Louis lime top at 1,185 ft., total depth 1,650 ft., was dry and abandoned.

In Washington County Shell Oil Co., Inc.'s No. 1 P. Dix, SW SE SE Section 18-3s-1w, St. Louis lime at 1,635 ft., total depth 1,661 ft., dry and abandoned. Cochrane's No. 1 Kula, SE SE SE Section 8-3s-2w, St. Louis lime top at 1,655 ft., total depth 1,666 ft., dry and abandoned.

In Wayne County Weinert's No. 1 Runiff, C W½ SW NW Section 10-2s-7e, Aux Vases sand top at 3,145 ft., total depth 3,290 ft., dry and abandoned. Anderson and others' No. 1 Stewart, C E½ SE NW Section 23-2s-8e, McClosky lime top at 3,379 ft., total depth 3,404½ ft., dry and abandoned.

In White County Exchange Oil Co.'s No. 1 Bramlet, SE SE SW Section 25-4s-10e, St. Louis lime top at 3,102 ft., total depth 3,140 ft., dry and abandoned. Pyramid Petroleum Co.'s No. 2 Porter, C E½ SW SE Section 12-6s-8e, McClosky lime at 3,080-91 ft. and 3,112-19 ft., acidized with 500 gal. through perforations, dry and abandoned. Harry Blackstock's No. 3 Storms, NW NW NW Section 24-6s-9e, Ste. Genevieve lime top at 2,927 ft., total depth 3,063 ft., dry and abandoned. Ray Johnston's No. 1 Bennett, NW NW NE Section 24-6s-9e, McClosky lime at 3,058-67 ft., contained water, total depth 3,082 ft., abandoned. O'Meara and Wilson's No. 1 Bennett, NW cor. NE SE NW Section 24-6s-9e, abandoned at 2,040 ft., Kinderhook shale was topped at 1,820 ft.

Edwards County's New Wells

In Edwards County Broadus and others' No. 2 Broster, SW SE SE Section 34-2s-14w, total depth 2,672 ft., plugged back to 2,664 ft., produced 50 bbl. per day naturally from Cypress sand at 2,630 ft. Herrick & Broadus' No. 2 Broster, NW cor. SW SE Section 34-2s-14w, Cypress sand at 2,635 ft., total depth 2,652 ft., pumped 84 bbl. per day. Masters' No. 1 Broster, SE cor. NW NW NE Section 3-3s-14w, Cypress sand at 2,612-27 ft., pumped 75 bbl. of oil and about 10 bbl. of water.

In Jefferson County Magnolia Petroleum Co.'s No. 2 Schulik, SE NE SW Section 22-2s-1e, Roseclair sand at 2,155-79 ft., pumped 150 bbl. per day.

In Lawrence County W. W. Willis' No. 1 Prather, C NW SE Section 18-4n-10w, Bridgeport sand at 803-26 ft., Bridgeport sand at 1,070-1,120 ft., 6,000,000 cu. ft. of gas.

Marion County

In the south end of the Salem field in Marion County, Township 1n-2e, Texas Co.'s No. 7 Lankford, SW NW NE Section 4, is a 225-bbl. well in Benoist sand topped at 1,836 ft., total depth 1,876 ft. Texas Co.'s No. 6 H. Corbin, NW SW NW Section 5-1n-2e, Aux Vases sand at 1,744 ft., total depth 1,801 ft., flowed 1,827 bbl. naturally. Texas Co.'s No. 1 E. Bell, NE cor. NW NW Section 7-1n-2e, Benoist top at 1,854 ft., total depth 1,858 ft., pumped 105 bbl. Texas Co.'s No. 25 E. Jett, SE SE SW Section 16-2n-2e, McClosky pay at intervals from 1,997 to 2,045 ft., pumped 105 bbl. Gibson & Jennings' No. 2 Phillips, SW SE NW Section 7-1n-2e, Benoist top at 1,836 ft., total depth 1,864 ft., flowed 300 bbl. in 19 hours through ¾-in. choke.

In Township 2n-2e, in the northern part of the field Magnolia Petroleum Co.'s No. 40 W. O. Chitwood, C S½ N½ SW Section 16, McClosky lime at 2,035 ft., total depth 2,100 ft., acidized with 4,000 gal., pumped 200 bbl. Texas Co.'s No. 26 E. Jett, NE SW SW Section 16, McClosky-lime pays at 2,030-35 ft. and 2,041-61 ft., pumped 210 bbl. Texas Co.'s No. 27 E. Jett, NE SE SW Section 16, McClosky-lime pays at intervals from 1,982 ft. to 2,059 ft., flowed 217 bbl. Kingwood Oil Co. and Bell's No. 19 Shanafelt A, SE NW NE Section 20-2n-2e, Devonian lime topped at 3,328 ft., pay at 3,383-3,420 ft., acidized with 1,000 gal., flowed 3,192 bbl. per day with casing pressure 850 lb. and tubing pressure 140 lb. Kingwood and Bell's No. 20 Shanafelt A, SE NE NE Section 20-2n-2e, Devonian-lime top at 3,354 ft., pay at 3,413-36 ft., acidized with 500 gal., flowed 3,720 bbl. Lad Oil Co.'s No. 4 Young Church, SW cor. NW¼ Section 21-2n-2e, Devonian top at 3,363 ft., pay at 3,422-57 ft., flowed 2,400 bbl. Magnolia Petroleum Co.'s No. 42 W. O. Chitwood, C W½ NW SE Section 21-2n-2e, McClosky lime at 2,054-95 ft., acidized with 3,000 gal., pumped 90 bbl. Magnolia Petroleum Co.'s No. 27 D. A. Shanafelt, C S½ NE NW Section 21-2n-2e, McClosky lime at 1,995 ft., total depth 2,056 ft., acidized with 4,000 gal., pumped 150 bbl. Texas Co.'s No. 18 D. Young, SE SE NW Section 21-2n-2e, McClosky pays at 2,025 to 2,073 ft., flowed 210 bbl. naturally. Magnolia's No. 72 J. H. Young, SE NW NW Section 28-2n-2e, McClosky lime at 1,952 ft., total depth 2,100 ft., acidized with 3,000 gal., pumped 140 bbl. Magnolia Petroleum Co.'s No. 30 S. Shanafelt, SE NW SE Section 29-2n-2e, Devonian lime at 3,333 ft., pay at 3,377-3,408 ft., acidized with 3,000 gal., flowed 2,368 bbl. Texas Co.'s No. 10 Stroup, NE NE NW Section 31-2n-2e, Aux Vases sand at 1,778 ft., total depth 1,830 ft., shot with 50 qt. at 1,780-1,830 ft., pumped 315 bbl.

In the Fairman pool, Marion County, Shell Oil Co., Inc.'s No. 2 Ahlf, NE NE SW Section 18-3n-1e, total depth 1,718 ft., plugged back to 1,180 ft., was barren of oil and will be used as a salt-water disposal well. McClosky lime was topped at 1,676 ft. This hole was plugged back to a point above the top of the Cypress sand. Shell Oil Co., Inc.'s No. 2 Verners, SW NW NW Section 18-3n-1e, Benoist at 1,421-30 ft., pumped 110 bbl. of oil and 15 bbl. of water in 22 hours. Shell's No. 3 Verners, NW SW NW Section 18-3n-1e, Benoist at 1,421-31 ft., pumped 160 bbl.

In Richland County Pure Oil Co.'s No. 2 Wells, SE SE NE Section 23-4n-9e, Cypress pays at 2,568-80 ft. and 2,623-30 ft., shot with 25 qt. at 2,578-81 ft., and pumped 48 bbl.

In Wabash County Central Refining Co.'s No. 1 Vanault, SE NE SW Section 9-2s-13w, in the Keensburg townsite pool, had Cypress sand at 2,440-56 ft., pumped 57 bbl. J. C. Meyers' No. 3 Lovellette, NW SE SW Section 9-2s-13w, Cypress sand at 2,444-72 ft., shot with 20 qt., pumped 70 bbl. Continental Oil Co.'s No. 2 Cowling, NW SE SW Section 17-2s-13w, in the North Griffin pool, had Cypress sand at 2,463-84 ft., pumped 158 bbl. Tide Water Associated Oil Co.'s No. 5 Le Gier, SE SE NE Section 17-2s-13w, Cypress at 2,390-2,411 ft., pumped 100 bbl. Tide Water's No. 2 Spencer, SE SW SW Section 17-2s-13w, Cypress at 2,473-84 ft., total depth, pumped 190 bbl. Halsted Oil Co.'s No. 1 Gray, NE NW SW Section 29-2s-13w, Cypress sand at 2,469-77 ft., shot with 10 qt. on bottom, pumped 240 bbl.

In Washington County G. B. Warr's No. 1 Dennis, SW NE NE Section 14-3s-3w, Benoist sand at 1,224-31 ft., pumped 3 bbl. of fluid, 40 per cent water. Shell Oil Co., Inc.'s No. 10 Holsten, SW NW NE Section 22-3s-3w, Benoist pay shot with 10 qt. at 1,295-1,301 ft. and with 10 qt. at 1,289-95 ft., pumped 36 bbl.

In Clay County Pure Oil Co.'s No. 2 Scrugham A, NW NW SW Section 19-2n-8e, Fredonia lime top at 2,992 ft., total depth 3,098 ft., acidized with 5,000 gal., pumped 75 bbl. Pure's No. 1 J. R. Hubble, C E½ SE SW Section 33-2n-8e, Fredonia top at 3,004 ft., total depth 3,115 ft., acidized with 5,000 gal., pumped 50 bbl. Pure's No. 1 Kirney Thomas, NE NE SE Section 13-2n-7e, was treated with 5,000 gal. of acid in Fredonia lime at 3,009-46 ft., and pumped 520 bbl.

In Wayne County Texas Co.'s No. 1 Clark, C E½ SE SE Section 4-2s-7e, McClosky pays at intervals 3,213-50 ft., acidized with 2,000 gal., flowed 215 bbl. in 15 hours. Robinson and others' No. 2-A Caldwell, NE NE NW Section 34-2s-8e, made a 300-bbl. well in McClosky lime at 3,372-88 ft., which had been acidized with 5,000 gal.

In Clinton County Shell Oil Co.'s No. 7 Buehler, NE NW NW Section 12-1n-1w, Centralia pool, shot with 21 qt. in Benoist sand at 1,354-62 ft., pumped 94 bbl. per day.

In Edgar County Sanders and Walton abandoned No. 2 Weaver, NW SW NW Section 24-14n-14w, at 298 ft.

In the St. James pool in Fayette County Ohio Oil Co.'s No. 8 Swarm, NW NE SE Section 36-6n-2e, shot with 30 qt. at 1,577-1,610 ft. (Cypress sand) and pumped 172 bbl.

In the Louden field Jarvis Brothers' No. 14 Yakey, C SW SE Section 6-7n-3e, is a 150-bbl. well in Benoist sand after a shot of 40 qt. at 1,550-70 ft. Jarvis Brothers' No. 16 Yakey, NE SW SE Section 6-7n-3e, was good for 125 bbl. a day from Benoist sand, which had been shot with 40 qt. between 1,393 and 1,543 ft. Minerva Oil Co. abandoned No. 1 Sather, NW SE SW Section 16-7n-3e, at 1,600 ft. Carter Oil Co. abandoned No. 4 Welker, NE NE NW Section 18-7n-3e, at 1,573 ft.

Jarvis Brothers' No. 9 Welker, C W½ NE SW Section 31-7n-3e, was shot with 35 qt. and pumped 75 bbl. Seven-inch casing was set at 1,540 ft., total depth 1,563 ft. Carter Oil Co.'s No. 3 Cummings, SW NE NE Section 21-8n-3e, total depth 1,623 ft., was plugged back to 1,593 ft. and shot twice with 10 qt. It pumped 58 bbl. Carter Oil Co.'s No. 10 Wright, NE SW NE Section 21-8n-3e, was shot with 40 qt. in Paint Creek sand at 1,569-82 ft., and swabbed 156 bbl.

N. L. Murphy's No. 1 Sharp, SE SE SE Section 1-3n-1w, Clinton County, was dry and abandoned at 1,722 ft. McClosky lime was topped at 1,712 ft.

New Wildcats and Deep Tests

In Lawrence County H. Kays' No. 1 Griggs, 200 ft. from west and 400 ft. from south lines of SE¼ Section 12-3n-13w, moving in material.

In Marion County Menhall and others' No. 1-A I.C. R.R., 40 ft. south and 60 ft. east of northeast corner of Block 75, Centralia, a Devonian test, rigging up rotary.

In Wabash County R. Ryan's No. 1 Seigert, NW NW NW Section 2-3s-14w, shut down at 2,384 ft.

In Edwards County Massac and others' No. 1 Toop, C E½ NE SE Section 13-3s-10e, moving in rotary.

The following Devonian tests were started in the Centralia field in Marion County: Shell Oil Co., Inc.'s No. 4-C Salem State Bank, 284 ft. from south and 990 ft. from west lines of SE¼ Section 20-2n-2e, rig up. Shell's No. 3-C Young heirs, 330 ft. from south and 962 ft. from east lines of SE¼ Section 20-2n-2e, rig up. Shell's No. 4-C Young heirs, 906 ft. from north and 990 ft. from east lines of SE¼ Section 20-2n-2e, drilling below 100 ft. Shell's No. 6-C Farthing, 940 ft. from south and 408 ft. from west lines of SE¼ Section 32-2n-2e, rig up. Texas Co.'s No. 12 Lee, 380 ft. from south and 280 ft. from west lines, SE NE Section 29-2n-2e, derrick up. Texas' No. 20 D. Young, 265 ft. from south and 150 ft. from west lines of NW¼ Section 21-2n-2e, location. Texas Co.'s No. 21 D. Young, 151 ft. from south and 339 ft. from west lines of NW¼ Section 21-2n-2e, location. Texas' No. 13 Fossieck, 356 ft. from north and 367 ft. from east lines, NW NW SE Section 29-2n-2e, location. Magnolia Petroleum Co.'s No. 19 J. R. Young, 292 ft. from east and 282 ft. from south lines, SW NE Section 29-2n-2e, rigging up rotary. Magnolia's No. 33 Shanafelt, 318 ft. from north and 287 ft. from east lines, NW SE Section 29-2n-2e, derrick up. Magnolia's No. 34 Shanafelt, 357 ft. from south and 287 ft. from west lines of NW SE Section 29-2n-2e, derrick up. Magnolia's No. 35 Shanafelt, 213 ft. from north and 332 ft. from west lines, SW SE Section 29-2n-2e, derrick. Magnolia's No. 36 Shanafelt, 299 ft. from north and 364 ft. from east lines, SE SW Section 29-2n-2e, derrick.

In Brown County B. F. Kagy's No. 1 Ripley, SE cor. NE NW SW Section 33-1n-2w of fourth principal meridian, was drilling below 60 ft.

In Clark County Allen & Sherritt's No. 1 Biggs, NW NW SW Section 9-11n-14w, is a location. J. W. Stipes, Jr.'s No. 1 Troughton, NE SW NE Section 20-11n-14w, location.

In Clinton County Lilly and others' No. 1 Heeds, 1,440 ft. from south and 450 ft. from east lines of SE¼ Section 12-1n-1w, derrick up. Unidentified owner's No. 1 Batson, SW cor. SE SE NE Section 13-1n-1w, derrick up. Max Pray's No. 1 B. Storer, 490 ft. from north and 1,140 ft. from east lines of NE¼ Section 13-1n-1w, location. Tom Potter's No. 1 Shosick-Bailey, SW cor. NE Section 13-1n-1w, deepening from Benoist sand at 1,363 ft., total depth 1,387 ft., and rigging up rotary. Bright and Denby's No. 1 Thomas, Lot 5, Block 2, Pullen subdivision, in SE SE NE Section 13-1n-1w, moving in rotary. Newton & Ward's No. 1-A Frank Gross, SE SE SW Section 5-1n-3w, location.

A St. Peter-sand test was started in Crawford County, but it is said the owners will make a mystery well

(Continued on Page 75)

WESTERN KENTUCKY

OWENSBORO, Ky., Jan. 8.—Five oil wells and four dry holes were completed in western Kentucky fields in the past week. One of the oil wells was good for 15 bbl. per hour, producing from only 2 ft. of the McClosky pay, while another started at 175 bbl. per day from Jett and Jones sands.

Following is the detailed report on completions and new operations for the week:

Daviess County, Utica district: H. C. Farmer and others' No. 2 J. E. Brown, south tract, 40-bbl. well in Jones sand, total depth 1,376 ft. J. C. Ellis' No. 2 J. C. Ellis, drilled deeper from Bethel to McClosky; 2 ft. in saturation; estimated at 15 bbl. per hour. Master Oil Co.'s No. 1 Roy Hansford, drilled deeper from 1,455 ft. to 1,480 ft.; through Bethel sand; estimated 40 bbl. per day. Foursome Oil Co.'s No. 3 W. D. Igleheart, location. C. E. Daugherty's No. 6 J. A. Leet, shot with 200 qt. in upper and lower Jett and Jones sands, estimated at 175 bbl. per day. Handyville district: A. V. Smith and others' No. 2 R. Y. Cravens, dry hole through Jones sand, total depth 1,383 ft.; No. 3, a location. Cane Run School district: Cane Run Petroleum Co.'s No. 15 R. E. Jackson, location.

Hancock County, Saunders School district: W. J. Flesher and others' No. 2 Jane Saunders, 25-bbl. well in Barlow sand 450-73 ft.

Henderson County, Niagara district: Niagara Oil & Gas Co.'s No. 3 T. T. Tilletson, dry hole through Pottsville sand. Corydon district: Sun Oil Co. and Kentucky Natural Gas Co.'s No. 2 R. H. Trigg estate dry hole through St. Louis sand, total depth 2,710 ft.

Logan County, 2 miles north of Walnut Grove School: O'Dell, Brown & Richardson's No. 4 Wren estate, temporarily abandoned at 1,403 ft.; had an oil showing at 1,340-50 ft.

Ohio County, Haynesville district: Glen Chancellor's No. 1 J. W. Christian, south 16 acres, dry hole through Jett sand, total depth 700 ft. Sunnydale district: J. Hunt's No. 2 Charles Russell, rigging up.

INDIANA

EVANSVILLE, Ind., Jan. 8.—A 300-bbl. well was completed by Superior Oil Co. at its No. 18 New Harmony Real Estate Co. lease in SE NE SE Section 9-5s-14w in Posey County, producing from sand at 2,158-2,204 ft. Kelly and others completed a gas well, No. 1 Axton-Cope, NE NW SE Section 3-7s-6w, in Spencer County. It was good for 5,730,000 cu. ft. of gas at 884-92 ft. J. E. Sloss and J. M. Walls' No. 1 Oakland City College, in Section 13-2s-9w, Gibson County, was an abandoned location, and in Gibson County Hickman and others' No. 1 Hollis, SE SE NW Section 36-2s-11w, was dry and abandoned at 2,175 ft.

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Texas and Louisiana Gulf

By
NEIL WILLIAMS

New Distillate Pool in Fort Bend; Louisiana Discoveries

HOUSTON, Tex., Jan. 8.—The discovery of distillate production in a wildcat northwest of Rosenberg, Fort Bend County, Texas; testing of a prospective pool opener in La Fourche Parish, coastal Louisiana, and coring of two additional oil sands in a promising wildcat in Iberia Parish, marked an interesting week of development in the Gulf Coast district.

Magnolia Petroleum Co.'s No. 1 R. G. Huntington, Henry Scott League, about 3½ miles northwest of Rosenberg, Fort Bend County, is flowing 2 bbl. of water-white distillate per hour through a 9/64-in. choke under a tubing pressure of 1,450 lb. and shutin casing pressure of 1,750 lb. The well is producing through perforated casing at 8,246-50 ft. Production is from the lower Yegua formation, topped at 7,748 ft.

A major extension or a new producing area was recorded for the South China field, Jefferson County, with the completion of Titanic Oil Co.'s No. 1 Guiterman, approximately 1 mile northeast of the discovery well. The well was drilled to a total depth of 8,005 ft., and was completed through perforated casing at 7,512-20 ft., for an initial production of 10 bbl. of 37.3-gravity oil per hour, flowing through a 9/64-in. choke. Tubing pressure was 1,200 lb. and casing pressure 1,100 lb. Production is from the Frio sand approximately 300 ft. higher than the discovery well which was completed in the basal Frio sand at 7,872-85 ft. Location was made by the same operators for No. 1-B Guiterman, a west offset, while in the field proper locations were made for No. 2-A and No. 2-B Broussard, both of which offset production.

In the Rosenberg field, Fort Bend County, Fred Browning's No. 1 Sacha, ½ mile southwest of the discovery well, is waiting for orders at a total depth of 8,011 ft. An electrical survey showed sand at 7,712-25 ft., and at 7,730-33 ft., with 6 ohms resistivity. Offsetting the discovery well, Humble Oil & Refining Co. staked location for No. 1 Skripka in the C. N. Simpson Survey. This is the first operation started in the field by Humble since its purchase of H. C. Cockburn's holdings, including the discovery well and approximately 5,000 acres.

Humble Oil & Refining Co.'s No. 1 Mettler, about 1 mile northeast of the discovery well of the Anchor field, Brazoria County, is showing indications of opening the first crude-oil production in the field as the well is flowing at the rate of 25 bbl. of fluid per hour through a ¼-in. choke of which 15 to 85 per cent is salt water, and the balance 28.5-gravity oil. The company continues to test the well and unless the salt water is eliminated it may be killed and the well recompleted. This well was drilled to a total depth of 10,617 ft., and was originally tested through perforated casing at 10,578-85 ft. where it showed distillate and salt water. Northwest of the discovery well, Glenn McCarthy's No. 1 Salmon & Momma, George Robinson Survey, is testing through perforated casing at 9,898-20 ft. Previous testing at 10,518-25 ft. and 9,810-20 ft. showed various quantities of distillate and salt water. Approximately 2 miles southwest of production, Glen McCarthy is rigging up No. 1 L. N. Neidringhaus in the J. Bradley Survey. The well is on a farmed-out lease from the Texas Co.

In the League City field, Galveston County, Phillips Petroleum Co. was attempting to bring under control No. 4 Stewart Title Guaranty Co. which blew out from a total depth of 11,270 ft. The well is on the north side of the field and the blow out occurred while casing was being pulled preparatory to abandoning the hole. Seven and five-eighths inch casing was previously cemented at 9,510 ft., and the company is attempting to bring the well under control by pumping in heavy mud so that a high-pressure separator can be installed. This is one of the deepest wells drilled in the field. It is not known whether the gas is coming from the bottom of the hole or from one of the various sands found on the way down. Late in the week, the well was reported to be making some oil.

In the same county, and in the Dickinson field, Pan American Production Co. purchased the holding of Mar-Tex Oil Co. The deal included 13 producing wells and 1,667 acres located on the southwest side of the field in the W. K. Wilson Survey.

On the northwest flank of the Fannett dome, Jefferson County, Gulf Oil Corp.'s No. 1 Bordgages, J. Probarth Survey, topped broken shale and sand showing oil and gas at 7,881 ft., and at the end of the week, the company was coring ahead in shale and sand showing oil below 7,900 ft.

Locations for two interesting wildcats were made in Harris County. In the Ogburn area R. A. Irwin and others have derrick up for No. 1 C. H. Grisbee in the John Picture Survey, while in the William Slayer Survey Cities Service Oil Co. staked location for No. 1 Perry V. Cook.

In Montgomery County location for a Tertiary Wilcox test was made by Continental Oil Co. for No. 1 Bender estate, in the Montgomery County School Land Survey, 450 ft. east, and 300 ft. from the southwest corner of the E. L. and F. V. Bender 50-acre tract. On the Old Gulf dome, Matagorda County, Texas Gulf Producing Co. has derrick up for No. 1 Gulf Tex Oil Co., in the Ira Ingram Survey.

Coastal Louisiana

Along the Louisiana coast, and located on the Bay Brussel prospect, La Fourche Parish, Tide Water Associated Oil Co.'s No. 1 Delta Farms Co., is preparing for a production test of several sands after 7-in. casing was cemented on bottom at 11,835 ft. Sands showing oil were logged as follows: 11,272-82 ft., 11,295-11,307 ft., 11,363-11,420 ft., and 11,775-11,804 ft. Other showings previously reported were logged at intervals from 9,748 to 9,928 ft.

Plymouth Oil Co.'s No. 1 McHugh, Bayou Pigeon prospect, Iberia Parish, was practically assured of opening a new field as drill-stem testing in two new sands recovered pipe-line oil. A 10-minute drill-stem test at 7,925-50 ft., recovered 27 stands of fluid of which 25 stands was pipe-line oil and 2½ stands oily mud. Gravity of the oil tested 31.7. Another 10-minute drill-stem test at 8,047-71 ft., recovered 36 bbl. of oil, and the well is shut down down for repairs after coring to a total depth of 8,083 ft. Previous testing at 7,277-85 ft., showed pipe-line oil.

Royalty prices around the Erath prospect, Vermilion Parish, range from $250 to $300 per acre base as Texas Co.'s No. 1 Vermilion Parish School Board, is reported to have logged sand showing gas at 10,133-43 ft., and at 10,432-10,553 ft. The hole is bottomed at 10,595 ft., and the operators are now fishing for rock-bit cones. Seven and five-eighths inch protection casing was recently cemented at 9,918 ft.

On the east flank of the Starks field, Calcasieu Parish, W. T. Burton and others' No. 1 Industrial Lumber Co. is drilling ahead below 7,750 ft. This well attempted to blow out at 7,725 ft., and the operators attempted to complete the well through the drill pipe which became stuck due to excessive gas pressure. The hole is being deepened by using 2-in. drill pipe inside of the 4-in. drill stem.

Northeast of the Bancroft field, Beauregard Parish Atlantic Refining Co. staked location for a Tertiary Wilcox test on the Lutcher Moore Lumber Co. lease in Section 13-5s-12w. This is the third Wilcox test to be drilled by the company in this parish during the past few months.

More activity was reported for the newly opened Barataria field, Jefferson Parish, as location for three more tests were announced. Offsetting the discovery well to the south, Gulf Oil Corp. spudded No. 1 Rathborner in Section 2-16s-23e, while California Co. staked location for No. 1 Danciger-State and No. 1 Zeringue-Community, both wells being located in Section 2-16s-23e.

In the Golden Meadow field, La Fourche Parish, Temple Hargrove purchased two producing wells and several small tracts amounting to over 100 acres from William Hellis. The deal involved the Gasper and Rizard leases on which Temple Hargrove is drilling an 8,500-ft. test. The consideration was $150,000 in oil payments and an overriding interest after the oil payment has been completed.

In the Lake Boeuf area, La Fourche Parish, Gulf Oil Corp. staked location for No. 1-B Bowie Lumber Co. in Section 69-15s-18e. The well is located on a block of several thousand acres which was leased following extensive geophysical work.

In Plaquemines Parish, Gulf Oil Corp.'s No. 1-D Buras Levee District, Section 6-23s-31e, is preparing to drill ahead from a total depth of 8,641 ft. after cementing a protection string of 9-in. casing at 8,204 ft.

Continental Oil Co. was attempting to complete two additional wells in the Tertiary Wilcox formation in the Villa Platte field, Evangeline Parish. No. 4 Hattie Haas is being tested after 6-in. casing was cemented on bottom at 10,390 ft., while No. 4 Fontenot Deshotel Unit No. 4 is being tested at a total depth of 10,300 ft.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

Brazoria County

Danbury field: Rowan Drilling Co.'s No. 1 Jamison, 7,476 ft., dry and abandoned. Manvel field: Texas Co.'s No. 9 Ewing, sand 5,368-95 ft., 114 bbl. of oil, 12 bbl. of water in 12 hours, ¼-in. choke. West Columbia field: Texas Co.'s No. 24 Abrams, perforated casing 5,335-60 ft., 395 bbl., ¼-in. choke.

Chambers County

Anahuac field: Humble Oil & Refining Co.'s No. 21 Gripon, sand 7,094-7,100 ft., ¼-in. choke. Humble Oil & Refining Co.'s No. 30 Tyrell, sand 7,005-80 ft., 669 bbl., ¼-in. choke. South Cotton Lake field: Humble Oil & Refining Co.'s No. 2-C Lawrence, 6,515 ft., 120 bbl., ⅛-in. choke.

Fort Bend County

Thompson field: Gulf Oil Corp.'s No. 2-B Wolters, sand 5,400-10 ft., 121 bbl., ⅛-in. choke. Humble Oil & Refining Co.'s No. 18 Davis, sand 5,359-5,410 ft., 482 bbl., ¼-in. choke. Humble Oil & Refining Co.'s No. 3-A Wolters, sand 5,360-5,423 ft., 256 bbl., ¼-in. choke. Quintana Petroleum Co.'s No. 1-B Wolters, 5,410 ft., 141 bbl., ⅛-in. choke.

Harris County

Fairbanks field: Amerada Petroleum Corp.'s No. 15 Foley, sand 6,815-48 ft., 115 bbl., ⅛-in. choke. Amerada Petroleum Corp.'s No. 16 Foley, sand 6,814½-48 ft., 107 bbl., ⅛-in. choke. H. E. Williams and others' No. 1 Fairbanks Heights, sand 6,820-44 ft., 137 bbl., ⅛-in. choke. Friendswood field: Humble Oil & Refining Co.'s No. 16 Kiesling-Dixon, sand 5,975-6,042 ft., 554 bbl., ¼-in. choke. Humble field: Wilson Oil Co.'s No. 3 Brown, 1,744 ft., 123 bbl., pumping. Tomball field: Humble Oil & Refining Co.'s No. 1 Anderson, sand 5,551-64 ft., 77 bl., ⅛-in. choke.

Polk County

Segno field: Gulf Oil Corp.'s No. 26 Wing, sand 8,116-87 ft., 82 bbl., gas lift. Humble Oil & Refining

(Continued on Page 83)

North Louisiana, Arkansas

Greater Drilling Activity in the Smackover-Lime Fields

By GEORGE WEBER

SHREVEPORT, La., Jan. 8.—New wildcat tests and increasing drilling activity in the new South Arkansas Smackover-lime fields attracted attention of operators in the tri-state area last week. The Dorcheat field of Columbia County, Arkansas, received a southwest extension. A wildcat drilling in Union County is nearing the Smackover horizon, and a second wildcat in the county, east of El Dorado, is making production tests.

The Atlanta field of Columbia County, Arkansas, was extended 1¼ miles to the northeast by completion of J. K. Mahoney's No. 1 Emma Riley.

North Louisiana activity remained relatively quiet, with continued activity in Caddo, Bossier, and Sabine parishes. Two wildcats in Bienville and La Salle parishes are beginning, and will receive considerable attention in the next few weeks.

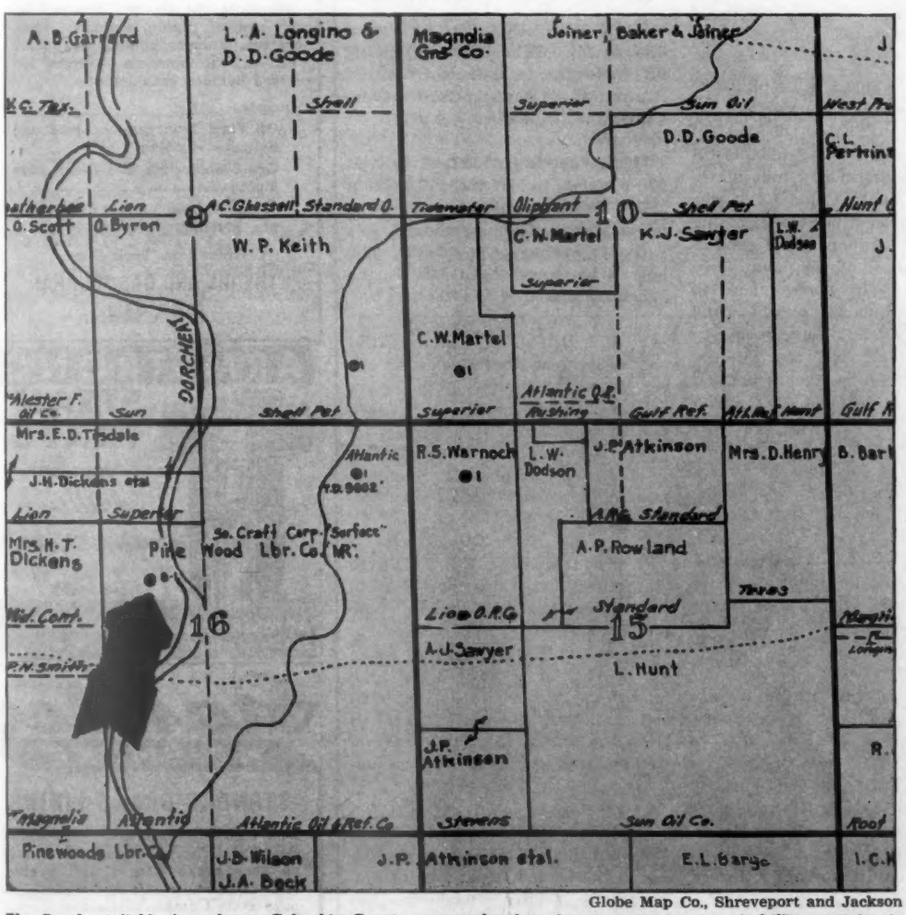
Dorcheat Extended

Atlantic Refining Co. brought in No. 1-B Pine Woods Lumber Co. this week for a ¾-mile southwest extension to the recently discovered Dorcheat field in Columbia County. This field, which to all appearances is the next center of drilling in the state, now has three producers, with two offset operations on or near the pay, and an important west outpost test also nearing the Smackover lime.

The Atlantic producer gaged 144 bbl. daily through a ⅛-in. choke, with tubing and casing pressure at 2,250 lb. The 5½-in. producing string was perforated at 8,864-67 ft. This outpost topped the Smackover lime at 59 ft. lower than the nearest producer, ¾ mile to the northeast, and the porous lime was topped 58 ft. lower than the same well.

Lion Oil Refining Co.'s No. 1 Warnock, east offset to the discovery well, which was completed last week, topped the Smackover lime 8 ft. lower and the porous zone 7 ft. lower than the discovery well, Atlantic Refining Co.'s No. 1 Pine Woods. In a north offset position to discovery, Shell Oil Co., Inc.'s No. 1 Keith topped the porous zone 21 ft. lower than discovery and on a drill-stem test this week recovered 30 ft. of distillate, 150 ft. of distillate-cut oil and 90 ft. of wash water in 10 minutes at 8,846-59 ft., with a working pressure of 350 lb. and calculated bottom-hole pressure of 3,500 ft. The test is coring below 8,874 ft. To the west, Gulf Refining Co.'s No. 1 Lewis, a wildcat 1½ miles north and 4 miles west of Dorcheat production, is drilling below 7,430 ft. and nearing the Buckner formation. This well will be watched during the coming week with much interest.

A good producer was completed at Atlanta, in Columbia County, as J. K. Mahoney's No. 1 Emma Riley came in making 185 bbl. daily through an 11/64-in. choke.



Globe Map Co., Shreveport and Jackson

The Dorcheat field of southwest Columbia County seems slated to be a coming center of drilling activity in South Arkansas, with a ¾-mile extension of the Smackover-lime production last week, and offset extensions in three directions from the discovery well

Union County Wildcats

Union County wildcats are in the spotlight, with one test on the southern border near the Louisiana line nearing the Smackover, and a second, east of El Dorado, resuming operations to test former oil shows. Barnsdall Oil Co.'s No. 1 Cameron, C SW NW Section 36-19-17, 5 miles west of Junction City and 1 mile north of the state line, is drilling below 7,350 ft. This wildcat is due to top the Buckner formation in a few days.

To the north, and east of El Dorado, Delta Drilling Co. and Fohs Oil Co.'s No. 1 Grace, after a shutdown period of several weeks, is arranging to set 6-in. casing at about 4,800 ft. to test upper sands. Total depth is 6,819 ft. The Buckner was topped at 6,618 ft., the Smackover at 6,681 ft. and the first porous zone in that formation at 6,707 ft. carried salt water. Operators plan to test prospective productive sands at 3,500 and 4,600 ft.

At Magnolia, a south edge test on the west end of the field, Arkansas Fuel Oil Co.'s No. 2-B W. King is plugging back to shut off salt water following a test which showed 90 per cent salt water in the porous lime. The first porosity was encountered at 7,653 ft. and the main zone at 7,669 ft. The testing of salt water indicates the rise of the water table due to withdrawal of oil in the field.

Production by Pool

Estimated daily gross production all companies week ended January 5, 1940:

NORTH LOUISIANA

	Bbl.
Bellevue	470
Caddo light	5,210
Caddo heavy	2,260
Converse	510
Cotton Valley	*12,295
Cross Lake	5,150
De Soto and Red River	1,095
Elm Grove	315
Haynesville	2,740
Holly	65
Homer	2,740
Lisbon	4,870
Pleasant Hill	100
Rodessa	21,995
Sarepta-Carterville	†285
Sligo	1,475
Sugar Creek	340
Urania	2,640
Zwolle	2,175
Total	66,730

SOUTH ARKANSAS

Atlanta	650
Big Creek	90
Buckner	2,395
Champagnolle	1,325
Dorcheat	830
El Dorado	1,730
Lewisville	600
Lisbon	235
Magnolia	19,635
Miller County	275
Nevada	530
Rodessa	2,935
Schuler	18,075
Smackover light	1,875
Smackover heavy	14,245
Stephens	515
Troy	1,230
Urbana	930
Village	1,355
Total	69,455

*2,935 bbl. is distillate. †100 bbl. is distillate. Texas side of Rodessa, 26,265 bbl.

North Louisiana Wildcats

Several wildcat and deep tests claimed attention in North Louisiana. In Bienville Parish Harry Hanbury's No. 1 Holston unit, a farmout from Standard Oil Co., is spudding early this coming week. La Salle Parish's

(Continued on Page 82)

TWO-IN-ONE

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Among the Drilling

CHRISTIAN-CARPENTER Drilling Co., newly organized company of Houston, Tex., is moving a rotary to the Ogburn area, Harris County, Texas, for R. A. Irwin's No. 1 G. H. Grisbee, located 2½ miles east of the Ogburn Survey in the J. Picture Survey.

ROWAN DRILLING CO. abandoned its No. 1 Jamison at the Danbury dome, Brazoria County, Texas, and the rig will be moved to the Cheek area, Jefferson County, for the company's No. 1 Toney Tortorias in the M. Pevito Survey, about 1½ miles south of the Cheek townsite. Another operation in the Gulf Coast district is reported at the Venice dome, Plaquemines Parish, coastal Louisiana.

PITTMAN & DYER received contract for West Conroe Oil Corp.'s No. 1 R. L. Calfee, a wildcat located 3½ miles northwest of Conroe, Tex., in the H. N. Dillon Survey. Contract depth is 5,000 ft.

GEORGE ECHOLS is keeping several of his rotaries running for his own company (Titanic Oil Co.). In Jefferson County, Texas, Titanic Oil Co.'s No. 1 Guiterman, 1 mile northeast of the South China field, was completed through perforated casing at 7,512-18 ft. for an initial production of 8 bbl. of oil per hour, flowing through ⅛-in. choke. The rig has been moved due west for the company's No. 1-B Guiterman. In Liberty County, and east of the Hankamer field, another operation was started for Titanic Oil Co. and others on the E. W. Boyt lease. Other operations are reported at the Allen dome, Brazoria County; the Boling dome, Wharton County, and at the South China field, Jefferson County.

JACK FRAZIER will move one of his rotaries to Bee County, Texas, for a joint wildcat test with Bunte Brothers to be drilled on the J. T. Earnest lease, located in Yougeen area in the Bee County School Land Survey. Contract depth is to the Wilcox formation or a depth of 9,500 ft.

TRINITY DRILLERS, Inc., spudded C. L. Norsworthy's No. 1 B. J. Fox, a wildcat located in the James Fagan Survey, about 5 miles southeast of Inari in Refugio County, Southwest Texas.

BIG CHIEF DRILLING CO.'s No. 1 Collins, in the SE cor. SW¼ Section 12-6-5, in the Grayson area, in Seminole County, Oklahoma, swabbed 325 bbl. of oil and no water in 24 hours after acidizing with 1,500 gal. The well is bottomed at 3,835 ft., with the Viola lime topped at 3,683 ft.

OLSON DRILLING CO., Tulsa, has been drilling below 6,637 ft. at No. 1 Scritchfield, in NW NE SE Section 4-12-3w, in the South Britton area, in Oklahoma County, Oklahoma. It is a Wilcox-sand test. This company's No. 4, in SW cor. NW¼ Section 24-26-4e, in the Olson area, in Osage County, Oklahoma, was shut down because of weather at a total depth of 1,650 ft.

SPRING ROSE DRILLING CO. and Central Petroleum Co.'s No. 1 Swanson, CNL NW NW Section 18-20-5w, McPherson County, Kansas, made potential of 180 bbl. of oil daily from Mississippi chat at 3,304-42 ft.; deepened to 3,347 ft., the well started flowing and new potential was to be taken.

FAIN DRILLING CO., Oklahoma City, at No. 1 Schnackenberg, in NE SE SW Section 21-21-4w, north of the Brown pool, in Garfield County, Oklahoma, was drilling below 4,454 ft.

HENRY MARSHALL Drilling Co.'s No. 2 Mejah, in NW NE SW Section 28-7-4, Pottawatomie County, Oklahoma, was rigging up standard tools with 7-in. casing set at 4,395 ft. The hole is bottomed at 4,412 ft. in the Wilcox sand topped at 4,390 ft.

WAITE DRILLING CO. and Kirkham & Jones at No. 1 Holbert, in NE cor. Section 25-14-10e, in the Dunn area of the Tuskegee district, in Creek County, Oklahoma, were drilling at 2,407 ft. on its way to the Wilcox sand. The Dutcher sand was topped at 2,300 ft., where a good show of oil was encountered to 2,315 ft.

C. & R. DRILLING CO., Oklahoma City, and W. H. Atkinson are drilling a wildcat at No. 1 Wilkerson, in NW NE NW Section 14-22-4e, northwest of Pawnee, in Pawnee County, Oklahoma. They are drilling below 3,330 ft. with the Bartlesville sand expected around 3,500 ft. The well is a farmout from the Carter Oil Co. Murray & Griffey Drilling Co., of Tulsa, is operating the tools.

TILLY DRILLING CO.'s No. 1 Mann, in the NW SW SE Section 19-6-5, in the Sacred Heart area of Pottawatomie County, Oklahoma, has been drilling below 2,750 ft.

OLSON DRILLING CO., Tulsa, be-

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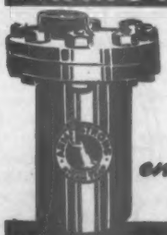

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STANDCO BRAKE LINING CO.
HOUSTON, TEXAS

Contractors

coming increasingly active in the West Texas district and which recently opened a branch office in Fort Worth, last week accepted contract for a deep wildcat test in Ector County and received permits for the drilling of three tests for the company, itself, in the Denver sector of the Wasson pool. The new contract received was from M. A. Grisham and associates, Abilene, and test will be No. 1 R. B. Cowden, 660 ft. from the north and east lines of Section 4, Block 45, T-1-N, T.&P. Survey, northwestern part of the county and 1½ miles south of the Andrews County line. The location is about 2 miles north of the north end of the Goldsmith pool and is between a small producer drilled some time ago by Atlantic Refining Co. to the south and one by Grisham-Hunter Oil Corp. to the north. The drilling company's permits for new tests include its Nos. 4, 5 and 6 Clawater, all in the NE¼ Section 766, Block D, Gibson Survey, Yoakum County.

TARGET DRILLING CO., Wichita Falls, Tex., has made another location in the Winn pool of Jack County, North Texas. It will be the company's No. 1 Kuykendall, Brock Survey, Abstract 1449, projected to the Bryson sand.

CLAIR GANNON, drilling contractor of Dallas, Tex., has signed contract for the drilling of a new Ellenburger-lime wildcat test in the Muenster area of Cooke County, North Texas. It will be for E. F. Peter and associates, Dallas, as their No. 1 Frank Klement, Block 12, Thomas Scott Survey. It is on a 600-acre block which has been surveyed by both soil analysis and geophysical methods.

HARRY BASS, Dallas, Tex., drilling contractor, has moved in materials for a new outside operation in the Grapeland pool of northern Houston County, eastern Texas. It will be for the Lone Star Gas Co. and the Trinity Gas Co., partnership, the contractor being part owner in the latter gas company. The test is No. 1 Dorsey, located on an 80-acre tract in the northwest corner of C. C. Marsh Survey, Abstract 757, ¾ mile south of the partnership's No. 1 C. C. Hill, nearest gas and distillate producer.

BUTLER & HORNE DRILLING Co., Dallas, Tex., in partnership with E. J. Keough, Cisco, for this drilling deal, has staked a wildcat location in southern Eastland County, West Central Texas. The test, No. 1 L. Walters, will be carried as Butler & Horne and Keough's. Contracted to the Caddo lime expected at approximately 3,350 ft., the location is in the C NW SW Section 83, Block 3, H.&T.C. Survey. Geology was based on subsurface correlations with several failures drilled in the general area.

Crew on Robey Drilling Co.'s rig on Texas Co.'s No. 21 Nelly Young, in Marion County, Illinois, Section 20-2n-2e, a test to the Devonian lime in the Salem pool: L. G. Hamilton, derrickman; J. D. Abbott, floorman; T. J. Tennett, driller; M. T. Munger, floorman, and W. R. Fox, derrickman

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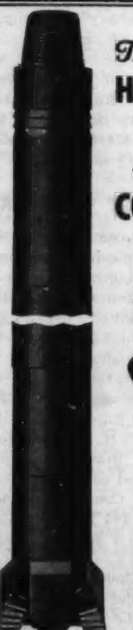

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Eastern Field Report

By STAFF CORRESPONDENT

Chestnut Ridge Test Still in the Cherty Onondaga Lime

PITTSBURGH, Pa., Jan. 8.—On Chestnut Ridge in Fayette County, Pennsylvania, the test of New Penn Development Co., William E. Snee and others on the Piedmont Coal Co. lease in North Union Township is drilling at 6,778 ft., or 86 ft. in the cherty zone of the Onondaga lime with the first gas pay of 525,000 cu. ft. a day at 6,731-32 ft. and second pay at 6,765-70 ft. which increased the volume to 593,000 cu. ft. a day. There is still almost 100 ft. of Onondaga before the Oriskany sand is reached.

In Jackson County, West Virginia, Joe Rubin and others topped the Corniferous lime at 4,679 ft. on the Henry Morrison farm in Grant district about 2 miles west of the town of Lockhart near the Grant-Ravenswood district line. This is a north offset to the Oriskany gas well on the D. P. Curry farm and is 33 ft. higher to the Corniferous lime. Casing was set at 4,707 ft.

SOUTHEAST OHIO

In Knox County Upham Gas Co. completed a test on the Jonathan Arnold farm, Lot 29, Howard Township, in the Clinton sand at 2,709 ft., gaging 900,000 cu. ft. along with a small showing of oil. On Lot 27, same township, this company completed a test on the A. M. Hawkins farm in the same formation at 2,662 ft., gaging 750,000 cu. ft. and 15 bbl. of oil before shot.

In Monroe County H. B. Walker & Co. completed a test on the Bolon and Pittman Linswell farm in Sections 27 and 33, Sunsbury Township, in the Berea at 2,260 ft., gaging 900,000 cu. ft.

In Morgan County Helen J. Burt and others drilled No. 11 Charles Yarnell, Lot 1, Windsor Township, through the first Cow Run sand to 580 ft. It was dry.

In Cuyahoga County Benedum & Trees are drilling the McGurer test in Mayfield Heights village at 2,930 ft. and in the Newburg sand and the Lander Road test at 1,820 ft.

WEST VIRGINIA

One producer was completed in West Virginia. In Calhoun County McIntosh and Grimm completed the R. Mell Marshall and others test in Sherman district at 1,815 ft., the Maxton sand, starting at 25 bbl.

In Cabell County United Fuel Gas Co. completed No. 4862 Lonnie Harless at 3,223 ft. with a gage of 212,000 cu. ft. 24 hours after shot.

In Gilmer County McCall Drilling Co. drilled a second test on the Cunningham and Wright farm in DeKalb district to 2,000 ft., and dry in the Injun.

In Mingo County T. H. Harvey is cleaning out after shot on the Sanford Brewer farm in Kermit district with a gage of 585,000 cu. ft. a day at 2,786 ft.

In Upshur County Cumberland and Allegheny Gas Corp. completed No. 295 Bessie Phillips in Meade district at 4,313 ft. with a gage of 37,320 cu. ft. at 3,998 ft.

In Wirt County Glen W. Roberts completed the George Hall Hysplo and others test in Burning Springs district at 1,776 ft., the Injun sand, gaging 200,000 cu. ft.

Oriskany Gas Field

In Union district, Kanawha County, Godfrey L. Cabot, Inc., completed the test on the Mansfield Jones and others farm at 4,938 ft. with the Corniferous lime topped at 4,780 ft.; Oriskany 4,890 ft., and a final gage of 2,987,000 cu. ft. This operator topped the Corniferous at 4,661 ft. on the L. M. LaFollette farm.

In Poca district Columbian Carbon Co. has made a location on the Ida B. Mairs and others farm, elevation 830.1 ft. This company is drilling at 5,026 ft. in the John Price test; at 4,385 ft. in the B. H. Richards test; at 4,635 ft. in the Walter Payne test; at 3,400 ft. in the W. S. Jones test.

Brawley-Reid Gas Co. topped the Corniferous lime at 4,874 ft. in the J. F. Jordon test and is running casing at 4,877 ft. United Fuel Gas Co. is down 4,865 ft. in No. 4858 C. C. Fisher, and 34 ft. in No. 4863 Mary E. Carney. United Carbon Co. is drilling at 1,680 ft. in No. 815 W. J. Bumgardner and others, and 180 ft. in No. 816 Louisia E. Long. West Virginia Gas Corp. topped the Corniferous lime at 4,831 ft. in the P. B. Garnes test, and is running casing at 4,848 ft. Alpha Gas Co. is down 3,900 ft. in No. 2 J. W. Legg, and Mullins Gas Co. at 2,934 ft. in the W. E. Fisher test.

In Elk district Columbian Carbon Co. is drilling at 326 ft. in the Leonard C. Hanna test. In Loudon district this company is drilling at 4,867 ft. in No. 4 Campbells Creek Coal Co., with the Oriskany sand at 4,820½-48 ft., and only 84,000 cu. ft. of gas.

Outside Deep Tests

In Jackson County and the Washington district extension of the Kanawha gas field, United Fuel Gas Co. completed No. 4860 Monroe Jones and others farm at 5,139 ft. with the Corniferous lime at 4,972-5,103 ft.; Oriskany, 5103-39 ft.; gas, 5,126-32 ft., gaging over 3,000,000 cu. ft. after shot. This company has made a location on the W. F. McFarland and others farm for No. 4866.

Columbian Carbon Co. is drilling at 3,748 ft. in No. 1 Putnam Co., and at 4,558 ft. in No. 1 Helen M. Hoge. United Carbon Co. is rigging up No. 5 Elizabeth W. Perkins. In Ripley district Everett Starcher and others are down 4,675 ft. in No. 1 Estell Boggess, and 1,810 ft. in No. 1 W. L. Fisher. Godfrey L. Cabot, Inc., has reached 1,660 ft. in No. 3 Putnam Co. Columbian Carbon Co. is down 1,984 ft. in No. 2 Putnam Co., and 1,616 ft. in No. 3.

In Steel district, Wood County, United Carbon Co. is drilling at 3,600 ft. in the J. K. Grimm and others test.

SOUTHWEST PENNSYLVANIA

One small producer, three gas wells and one dry hole were reported from Southwest Pennsylvania. In South Franklin Township, Washington County, Union Gasoline & Oil Corp. completed No. 827 C. T. Conn at 1,019 ft. with the Little Dunkard sand topped at 948 ft.; there was about 5 bbl. at 998-1,002 ft.

In North Strabane Township, Washington County, Keystone Drilling Co. completed the test on the Mary Means (Joseph Gregor) farm at 2,700 ft., a small gas well from the Fifty Foot, Fourth, and Fifth sands.

Indiana-Westmoreland-Clarion

In Washington Township, Indiana County, T. W. Phillips Gas & Oil Co. drilled on the Anna B. Spence farm to 3,590 ft. through the Bradford sand and it was dry.

In Westmoreland County Peoples Natural Gas Co. completed the test on the H. F. Burgman farm in Allegheny Township at 3,313 ft. with the Tiona sand at 2,927-40 ft.; gas, 2,930 ft.; Sheffield, 3,061-3,106 ft.; gas, 3,088 ft., and a gage of 26,000 cu. ft.

In this township Apollo Gas Co. is shut down with a crooked hole on the D. M. Jones heirs farm. In Bell Township Kiski Valley Gas Co. is drilling at 2,600 ft. on the John Beighley farm, and shut down in the James McBriar test.

In Clarion County T. Swartzfager and others are drilling at 2,800 ft. in No. 3 William George, in Limestone Township. In Toby Township David Judson and others are drilling at 1,366 ft. in the Summerville test. In Red Bank Township Owens Illinois Glass Co. is drilling at 2,144 ft. in the No. 2 Lewis Keck, and O. H. Culbertson has reached 300 ft. in No. 2 Edward Bowersox.

Armstrong County

In Cowanshannock Township, Armstrong County, Peoples Natural Gas Co. is drilling at 3,340 ft. on the William Small farm and after casing the well has not flowed any oil from the Tiona sand. Equitable Gas Co. is drilling at 1,341 ft. it No. 2 D. W. Raraigh, with the rig standing for No. 3. J. C. Sefton and others are drilling at 2,504 ft. in No. 3 Stanley Sowers. T. W. Phillips Gas & Oil Co. is at 3,472 ft. in No. 1 Jacob Boyer, and building rig for No. 2 Harry Boyer. Apollo Gas Co. is at 1,583 ft. in the Hulda Bleakney test.

In Kiskiminitas Township this company is shut down for shot at 2,227 ft. in No. 2 Tressler. Broman & Dorcey are drilling at 1,360 ft. in No. 5 M. M. Martin. In Kittanning Township Edward Young is drilling at 2,000 ft. in the Hugh Blair test. In Plum Creek Township William McCollins is shut down in the Add Reefer test. In South Bend Township Shelocta Gas Co. completed the test on the Harve Reefer farm at 3,675 ft. with packer trouble and no test.

In Boggs Township John Wray and others are drilling at 3,441 ft. in No. 3 William Mateer, and at 710 ft. in No. 2 Samuel Yockey. In Manor Township they have reached 3,060 ft. in the David Campbell heirs test.

Greene-Fayette

In Washington Township, Greene County, Equitable Gas Co. completed the test on the W. L. Beabout farm at 2,357 ft. with Big Injun sand at 1,977-2,249 ft.; stray, 2,354 ft.; gas, 2,356 ft. gaging 160,000 cu. ft.

In Richhill Township, Greene County, W. L. Walters and others are drilling at 1,035 ft. on the Cecil Clutter farm with the Little Dunkard sand at 884 ft. and 37,320 cu. ft. of gas at 886 ft. In this and Aleppo townships O. I. Dille and others are down 800 ft. in the Madison Hughes test.

In Greene Township, Greene County, Union and Monongahela Gas Co. is drilling at 1,378 ft. on the Barclay and Roos lease. In Wayne Township Manufacturers Light & Heat Co. shut down at 2,040 ft. on No. 2 Halsi Tustin.

In Fayette County Wahler-Powers Oil & Gas Co. is down 1,270 ft. in the Martin Grey test in German Township. In Nicholson Township Duquesne Gas Co. has reached 1,530 ft. in the Peter Waldovan test with Big Injun at 1,287-1,500 ft. and a show of gas at 1,398 ft.

Washington County

In South Franklin Township, Washington County, Harry Williams and others have reached 825 ft. in No. 6 Jason Buchanan. A. V. Lewis and others are drilling at 2,815 ft. in No. 2 Sarah W. Phelan.

In South Strabane Township W. H. Davis is drilling at 2,712 ft. in No. 11 B. Davis. In Carroll Township Eastern Gas Co. is down 2,875 ft. on the Haywood farm. In Somerset Township Equitable Gas Co. has reached 420 ft. in the Weir heirs test. In Hanover Township H. K. Aten is drilling up the bailer at 700 ft. in No. 2 Lee Devitt. In Mount Pleasant Township F. W. Findley is down 2,455 ft. in No. 2 William Loffert.

In South Fayette Township, Allegheny County, Dunn Brothers and others are drilling at 2,725 ft. in No. 2 J. J. Bowman, with 125,000 cu. ft. of gas in the Fifth sand at 2,490-2,506 ft. with gas at 2,496 ft.

Deep Tests

In Maryland New Penn Development Co., William E. Snee and others reached 5,375 ft. on the Humberson farm on the Accident dome in Garrett County and shut down for a new line.

In Fayette County on Laurel Ridge in Stewart Township these operators and E. G. Mueller are drilling at 3,000 ft. on the Gregg L. Neel farm. In North Union Township on Chestnut Ridge Wasson & Co. are shut down at 2,400 ft. in No. 2 J. H. Sorg.

First New Pool of Year Is Found in Crockett County

By D. H. STORMONT

MIDLAND, Tex., Jan. 8.—First new oil pool for the year in West Texas was seen when shallow production for Crockett County was definitely opened by Stanolind Oil & Gas Co.'s No. 4 Todd unit. Further adding to an eventful week in the district and continuing the widespread Ordovician exploration of the past year into the new year, Olson Drilling Co. and Bryce McCandless' No. 1 V. W. Crockett, 2 miles southwest of the deep Apco pool of northern Pecos County, was showing increases in gas as more saturation and porosity was drilled late in the week.

Stanolind's No. 4 Todd, in Section 30, Block WX, G.C.&S.F. Survey, Crockett County, a southeast offset to Continental Oil Co.'s deep Ellenburger wildcat in the process of drilling, was reported to have flowed 30.1 bbl. of oil in 4 hours, together with 3,700,000 ft. of gas. The hole is bottomed at 1,220 ft. With a total depth of 1,219 ft. earlier in the week, the test flowed 73½ bbl. in 7½ hours, together with 4,000,000 cu. ft. of gas.

One location northwest of the Stanolind test, Continental's No. 1 Todd, having plugged back from a total depth of 7,010 ft., where sulfur water was found, is testing at 6,620 ft. The test was last reported swabbing, with no shows, and contemplating plugging back farther.

Pecos County's Ordovician wildcat, Olson Drilling Co. and Bryce McCandless' No. 1 V. W. Crockett, in Section 5, Block 110, T. C. Survey, 2-mile southwest outpost to the Apco (Ordovician) pool, was running tubing with packer to test for oil below a gas horizon. The wildcat had blown out with an estimated 5,000,000 cu. ft. at 4,461 ft. Cores below this depth to 4,479 ft. had shown streaked saturation and porosity. With tubing landed at 4,477 ft., the test had shown only a little oil with mud and water. With packer set below the gas horizon an exclusive test of the possible oil section is expected.

Humble Oil & Refining Co.'s No. 1 B. D. Young, Section 33, Block 10, H.&G.N. Survey, Ordovician wildcat 8 miles northwest of the Apco pool, has cemented casing at 2,763 ft., total depth being 2,925 ft.

Ector County

The Cummins-Goldsmith pool of Ector County received nine of a total of 15 locations announced last Thursday by Gulf Oil Corp. The other counties receiving new locations by Gulf were Winkler, Ward, Crane, and Upton. The Ector County locations included the company's Nos. 242 to 251 Goldsmith.

Attracting attention in the northern part of Ector County is Stanolind Oil & Gas Co.'s No. 1 W. F. Cowden, deep wildcat test 2 miles northwest of the North Cowden pool. Top of the anhydrite has been picked up at 1,540 ft., which places the test 17 ft. higher structurally than Sun Oil Co.'s No. 1 Holt, a 23-bbl. producer ¾ mile to the east. Top of the Yates sand was picked normally at 2,790 ft. The No. 1 Cowden is located 1,980 ft. from the west and 660 ft. from the south lines of Section 4, Block 43, T-1-N, T.&P. Survey. The wildcat is projected to the deep horizon discovered last year by Gulf Oil Corp. at its No. 1 Holt, 2½ miles to the southeast. It was last reported drilling below 2,967 ft.

The Johnson area between the North Cowden and the Foster pools continues to hold attention as the linking process between the two pools continues. Landreth Production Corp. and Shell Oil Co., Inc.'s No. 1 Johnson, some 3 miles west of the main Johnson link area, is drilling ahead toward completion of its 4,500-ft. contract. No results of the bailing test after third-stage acid treatment at 4,310 ft. were noted. The test is in Section 43, Block 43, T-2-S, T.&P. Survey.

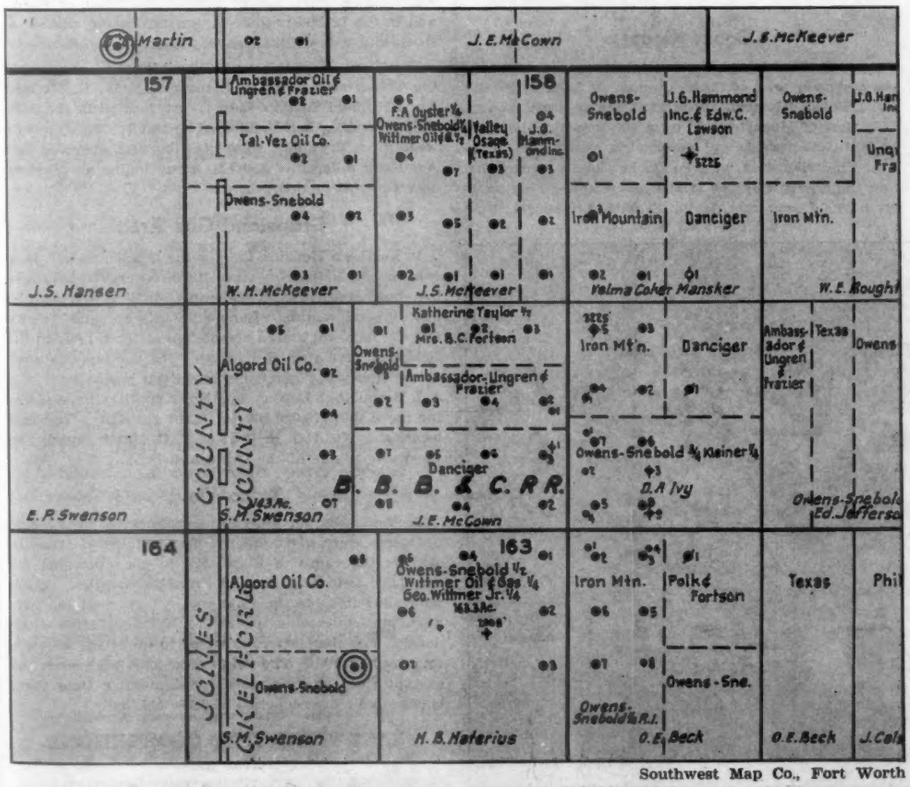
In northern Ector County and in the vicinity of two small producers about 1½ miles north of the Goldsmith pool, M. A. Grisham and associates, Abilene, have staked location for a deep wildcat test. It will be the operators' No. 1 R. B. Cowden, 660 ft. from the north and east lines of Section 4, Block 45, T-1-N, T.&P. Survey, between the two small producers.

Failing to find commercial production 1¾ miles southeast of the North Cowden pool, Richmond Drilling Co. has abandoned its No. 1 TXL, in Section 19, Block 42, T-2-S, T.&P. Survey. The wildcat had reached its contract depth of 4,500 ft.

Stonewall County's closely watched wildcat test, Shell Oil Co., Inc.'s No. 1 T. K. Smith, Section 143, Block 1, H.&T.C. Survey, projected to 6,000 ft., in the southern part of the county, was last reported drilling below 4,428 ft. Sand showing oil had been drilled from 4,395 to 4,401 ft., the test having bailed at the rate of 1 bbl. hourly from that depth. Casing has been reamed down from 3,863 ft. and is set at 4,371 ft.

North Basin

The Cedar Lake pool of northeastern Gaines County continued to hold attention in the north basin sector as testing continued at several wells. Tubing was being run as the week closed at Stanolind Oil & Gas Co.'s No. 1 Edith Johnson, Section 6, Block H, D.&W. Survey, southwest offset to the same company's No. 1 J. B. Rayner, discovery well. Cores to its total depth of 4,740 ft. compared favorably with cores from the company's other three producers in the area. North of the field the company is still testing at its No. 1 T. S. Riley, Section 11, Block H, D.&W. Survey. A new swabbing unit is being moved in after the well reported a swabbing gage of 8 bbl. in 1 hour after cleaning out to bottom at 4,864 ft.



Southwest Map Co., Fort Worth

A northwest outpost to the Ivy pool of northwestern Shackelford County and across the line into Jones County is showing for a 1-mile extension to the original shall w King sand. On the southern edge of the field a new and deeper horizon in the lower Pinto is being opened

WEST CENTRAL TEXAS

FORT WORTH, Tex., Jan. 8.—The indications of a 1-mile northwest spread, and across the county line into Jones County, of the shallow King-sand horizon of the Ivy pool in northwest Shackelford County, together with possibility that a new and deeper pay zone in the Palo Pinto lime has been discovered in the same pool, centered interest in the West Central Texas district as the week closed.

Immediately across the county line and in Jones County, Clyde O. Eastus, trustee's No. 1 De Etta Martin, center of the south line of Section 16, Block 3, H.&T.C. Survey, about a mile from shallow King-sand production in the Ivy pool and about ¼ mile from regular Palo Pinto-lime production in the area, is testing on pump from 1,925 to 1,940 ft. after the deeper Palo Pinto lime failed to yield commercial production. The test has reported no production gage; however, previous to its being shut down for the holidays 2 weeks ago, commercial production was indicated.

The King sand was the original discovery horizon for the Ivy pool in January 1937. In January 1938 the deeper Palo Pinto lime was opened after six King-sand producers and three King-sand failures were drilled. Since that date the entire development of the pool has been to the deeper level. Several weeks ago an approximate 160-acre tract ½ mile northwest of

(Continued on Page 92)

North and East Texas

By
D. H. STORMONT

Three Additional Zones of Saturation in Clay Wildcat

WICHITA FALLS, Tex., Jan. 8.—Clay County, one of North Texas' most promising wildcat areas for the coming year, centered the attention of practically all operators in the district during the past week after drilling a saturated sand from 3,419 to 3,437 ft. 2 weeks ago to indicate the county's fifth deep oil pool within a year, Shell Oil Co., Inc.'s No. 1 Henderson, extreme southwestern corner of the county, drilled three additional zones of saturation, any or all of which are believed capable of commercial production.

Adding to the interest in North Texas is Montague County's deep Simpson wildcat, Continental Oil Co. and Walter Gant's No. 1 J. Brown, which is preparing to make another drill-stem test. Staking of two new tests in the Benton & Holmes pool, also in Montague County, and location of a new wildcat in Cooke County, also led the week's developments.

Fourth of a series of saturated sands in the lower Strawn series was found late in the week by Shell Oil Co., Inc.'s No. 1 Henderson, a deep exploratory wildcat in southwestern Clay County and located in Block 2605, T.E.&L. Survey. The wildcat drilled its fourth zone of possible production from 3,655 to 3,656 ft. where it was shut down to prepare to core the sand. Earlier in the week the second saturated zone was logged from 3,505 to 3,519 ft. which tested 720 ft. of oil in 20 minutes with bottom-hole pressure of 1,300 lb. The third zone was drilled the following day from 3,573 to 3,585 ft. which tested 2,700 ft. of oil in 20 minutes with bottom-hole pressure of 1,300 lb.

The new discovery, while possibly on the trend, offers possibilities of being on an entirely different trend than the four other recent deep pools in the county. Almost directly to the northwest is the Scotland area of Archer County which embraces a deep Caddo producing well by Kadane & Sons and a Strawn producer by Adams Oil & Gas Co. Farther northwest and on the possible trend is the Canyon producing Chalk Hill pool. In the northern part of the county and still on the direct northwest-southeast trend is the Strawn Hull-Silk pool. Several miles directly northwest of Hull-Silk is the K.M.A. pool. Northwest of K.M.A. is the Canyon production in the Rock Crossing pool of Wilbarger County.

Typically accompanying a new discovery is the intense lease trading of adjoining acreage. Highest prices around the new discovery are being paid to the east and northeast. L. T. (Bobby) Burns is reported to have acquired a 160-acre tract offsetting the discovery acreage a mile to the northeast for the consideration of $24,000 cash and $12,000 out of oil. For the adjoining section to the east, King Oil Co. is reported to have paid $25,000 cash and $25,000 out of oil for the 640 acres.

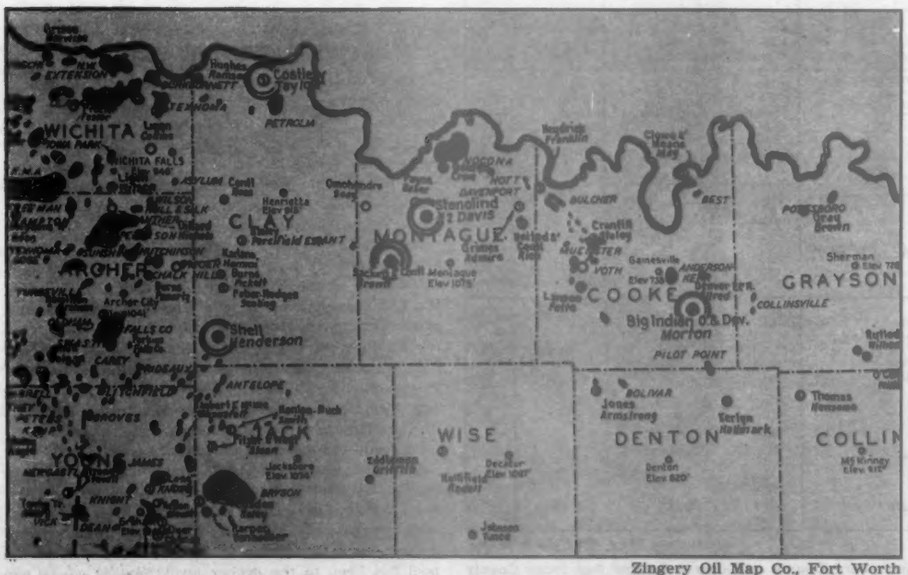
Montague County

Continental Oil Co. and Walter Gant's No. 1 Julia Brown, G. E. Nabours Survey, Abstract 1416, indicating a new Simpson of Middle Ordovician oil pool for southern Montague County, is preparing to make another drill-stem test. Saturated sand was reported at 7,036 ft. and the operators cored to 7,056 ft., recovering 1 ft. of dry lime. The first major oil showing in the deep hole was found from 6,840 to 6,904 ft. in the Simpson section. The Simpson section is more than 200 ft. in thickness, the most ever found in North Texas.

Two new tests for the Benton and Holmes three-horizon pool in Montague County were reported. Texas Co. has located its No. 1 P. J. Martin, 990 ft. from the south and east lines of the Martin tract in the C. A. Barnes Survey, Abstract 48, slightly more than a mile from the farthest east producing well in the pool. It will be a 4,000-ft. cable-tool test and will explore all three horizons of the pool. On the northeast corner of the pool J. W. Holmes and Joe Benton's No. 1 First National Bank of St. Jo has been staked 1,060 ft. from the east and 330 ft. from the south lines of the northeast quarter of Section 55, M.E.P.&P. Survey, northeast offset to the discovery well in the Granite Wash pay.

Cooke County

Another Ellenburger-lime test has been spudded in the Muenster area of Cooke County. It is E. F. Peter's No. 1 Frank Klement, Block 12, Thomas Scott Survey. It is west of Muenster and on a 600-acre block worked by both soil analysis and geophysical exploration methods. The wildcat in western Cooke County started before the holidays by Joe Mixon has resumed operations on a 2,000-ft. contract depth. Seeking Ellenburger-lime production at about 1,900 ft., it is located in the Peter Strong estate, S.P. Survey.



Zingery Oil Map Co., Fort Worth

Relative locations of some of North Texas' more recent new discoveries and their locations as compared with the many active wildcat tests in the area

EASTERN TEXAS

DALLAS, Tex., Jan. 8.—Four eastern Texas actively drilling deep Trinity wildcat tests, together with completions and new locations for the Grapeland gas area of northern Houston County, led the week's developments. New wildcat locations were staked in both Bowie and Kaufman counties to keep the Woodbine-sand exploratory work active.

Shell Oil Co., Inc.'s No. 1 Campbell, 2 miles northeast of the Chapel Hill discovery well in Smith County, was coring beow 8,287 ft. and nearing the Travis Peak section of lower Trinity. Some sources credit the test with topping the Travis Peak at 8,247 ft. Top of the Pettit, basal Glen Rose, was found at 8,053 ft. Little more than odors of oil have been reported from the test within the past 2 weeks.

In Camp County in the northern part of the eastern Texas district, Harry Moss' No. 1 Joe Venters, projected 7,500-ft. wildcat 3 miles southeast of Leesburg, is drilling below 6,626 ft. The test topped the upper Glen Rose at 5,980 ft. It is located in the S. Wright Survey.

South of Percilla about 2 miles, in northern Houston County, Shell Oil Co., Inc.'s No. 1 Dorsey, M. Sallas Survey, is reported to have recovered 50 joints of lost pipe and is now fishing for core barrel. Hole is bottomed at 9,884 ft.

The new location in Bowie County, previously announced and just this week started, is W. E. Neill's No. 1 Lewis Fort, nearly 3 miles northeast of Hooks and in the L. Peters Survey. Surface casing was set at 80 ft. and it is drilling below 357 ft.

Kaufman County's new Woodbine-sand start is in the Tolosa area south of Kemp and is W. H. McGee's No. 1 Rutland Savings Bank Trust, located in the John Baker Survey. It is drilling. The test is slightly northwest of a dry hole completed by the operator last August at a depth of 3,093 ft. after finding an oil show and water at total depth.

Grapeland Gas Area

In northern Houston County the Grapeland gas area, comparatively inactive since its discovery 2 years ago, has been receiving considerable drilling during the past several months. Lone Star Gas Co. and Trinity Gas Co. have registered completion at three tests in the field and have started a fourth. The completions were all in Houston County and were the operators' No. 1 J. I. Bean, No. 1 Denson, and No. 1 Smith, all completed for more than 73,000,000 cu. ft. of gas daily. The new location is No. 1 G. E. Dorsey, C. C. Marsh Survey, on the western side of the Grapeland field.

Talco Field

Declining market and sharp declines in bottom-hole pressures were given by the Texas Railroad Commission as the cause of a cutback in the allowable for the Talco field of Titus and Franklin counties. Scheduled allowable for the field was cut from 41,435 bbl., including shutdowns, to 21,574 bbl., excluding shutdowns. The change was expected to lower the monthly total by 77,000 bbl. The field is now on a 7-day week and exempt from shutdowns. Over a month's time there is expected a net reduction of 2,500 bbl. daily.

EAST TEXAS FIELD COMPLETIONS

(1-hour gage)

Rusk County—Joiner Area

F. W. Fisher's No. 1 I.O.O.F. and J. T. Gray, 3,670 to 3,775 ft., 30 bbl.

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EAST CENTRAL TEXAS COMPLETIONS

(24-hour gage)

Anderson County

In the Long Lake field Tide Water-Seaboard's No. 13 Shaw & Cern, D. Parker Survey, 5,171 to 5,262 ft., 115,000,000 cu. ft. of gas. A wildcat, J. C. Cook's No. 1 Royall-Davey, L. McCloud Survey, north of Jarvis, dry and abandoned at total depth of 1,950 ft.

Fannin County

A wildcat, H. W. English's No. 1 Ayer, J. D. Seales Survey, abandoned at total depth of 815 ft.

Houston County

In the Grapeland field Lone Star Gas Co. and Trinity Gas Co.'s No. 1 J. I. Bean, G. Evans Survey, 6,031-64 ft., 82,000,000 cu. ft. of gas and 35 bbl. of distillate per million feet of gas. Lone Star Gas Co. and Trinity Gas Co.'s No. 1 Denson, C. Greece Survey, 6,018-32 ft., 95,000,000 cu. ft. of gas. Lone Star Gas Co. and Trinity Gas Co.'s No. 1 Smith, C. Wallace Survey, 6,008-15 ft., 73,000,000 cu. ft. of gas.

Nacogdoches County

A wildcat, C. W. Burnaman's No. 1 Burnaman, H. Hamby Survey, 1½ miles southwest of Etoyle, abandoned location.

Navarro County

A wildcat, J. R. Bunn's (Sumas Production Co.) No. 1 A. Stroeder, J. White Survey, 3 miles southeast of Navarro, dry and abandoned at 3,251 ft.

Titus County

In the Talco field Magnolia Petroleum Co.'s No. 6 J. W. Chapman, George Dyer Survey, 4,290 to 4,310 ft., 165 bbl., pumping.

NORTH TEXAS COMPLETIONS

Archer County

E. P. Bowen's No. 1 W. H. Portwood C, 1,449 ft., dry. Chapman & McFarlin's No. 6 L. F. Wilson C, 4,342-83 ft., 605 bbl. W. B. Hamilton's No. 2 A. J. Ikard C, 1,155-67 ft., 10 bbl. H. Hines' No. 1 J. L. Anderson, 4,002 ft., junked, trying to clean out to total depth to drill deeper. R. C. Lipscomb and others' No. 2 L. F. Wilson, 3,808-38 ft., 1,240 bbl. Magnolia Petroleum Co.'s No. 2 Fred Thom, 3,807-49 ft., 660 bbl. Southern Petroleum Exploration, Inc.'s No. 5 S. D. Johnson, 1,286-1,300 ft., 10 bbl.

Baylor County

British American Oil Producing Co.'s No. 1 G. Seals, 2,588-2,602 ft., 129 bbl.

Clay County

C. W. Clark, trustee's No. 12 C. J. Shumake, 1,182-91 ft., 144 bbl. Duncan and others' No. 15 T. P. Duncan, 1,227 ft., dry. Frabor-Hodges Corp.'s No. 1 L. C. Scaling, 5,502 ft., dry.

Jack County

Bennett Oil Co.'s No. 1 R. W. Cantrell, 3,081-17 ft., 1,200 bbl. Champlin & Bass' No. 2 C. P. Gahagan A, 3,215-40 ft., 1,151 bbl. J. Worsham and others' No. 4 O. E. Cash, 3,268-81 ft., 1,320 bbl.

Montague County

Falls Refining Co.'s No. 12 E. J. Bouldin Crow, 764-91 ft., 10 bbl.

Wichita County

W. B. Omohundro's No. 2 O. M. Jones, 3,942-4,073 ft., 784 bbl. W. B. Omohundro's No. 3 O. M. Jones, 3,941-4,040 ft., 1,024 bbl. D. M. Ross and others' No. 27 Sue Mitchell, 418-30 ft., 11 bbl. D. M. Ross and others' No. 28 Sue Mitchell, 276-300 ft., 10 bbl.

Wilbarger County

Consolidated Oil Co.'s No. 2 Waggoner EE, 1,847 ft., dry. King Oil Co.'s No. 8 R. L. Castleberry, 2,162-90 ft., 55 bbl. Waggoner Refining Co.'s No. 2 Waggoner GG, 3,762-93 ft., 424 bbl.

Young County

F. E. Butler's No. 1 W. F. Bailey, 810 ft., dry. Cable Oil Co.'s No. 6 H. O. Prideaux, 558-78 ft., 10 bbl. C. Crzig's No. 1 J. L. Castleman, 1,243 ft., dry. J. E. McDonald's No. 2 J. F. Larimore, 560-70 ft., 6 bbl. Panhandle Refining Co.'s No. 2 Mrs. E. Taylor, 2,738-2,802 ft., 425 bbl. H. Zweifel's No. 2 J. C. Vaughn B, 3,858 ft., junked.

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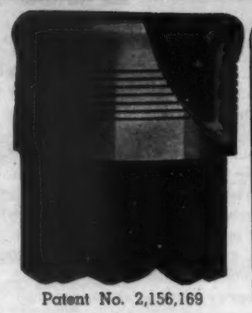

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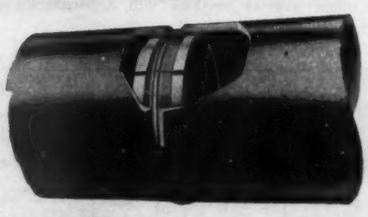

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California Field Report

By
L. P. STOCKMAN

Operators in Kettleman Hills Have New Curtailment Plan

LOS ANGELES, Calif., Jan. 8.—A plan for future development and production of the Avenal zone of Eocene age has been submitted by Kenda (Kettleman North Dome Association) to all operators in the Kettleman North Dome field who are not members of the association and whose properties are probably underlain by the Eocene. The new plan is based on gas production for the Eocene formation, it having been Kenda's contention for a number of years that production of crude oil in the Kettleman North Dome field must be considered in relation to the gas production. The new plan sets up quarter sections as Eocene operating units, Eocene production from each quarter section to be governed by characteristics of the Eocene formation underlying any given section in comparison with that underlying the master quarter section. The 160-acre Huffman lease of Superior Oil Co. has been selected as the master Eocene operating unit and hence, if the plan is generally adopted by all operators, all other quarter sections will be produced in relation to that quarter section. Eocene gas production from the Huffman quarter section will be approximately 5,000,000 cu. ft. per day with crude-oil production at about 200 bbl. per day and Eocene production from other quarter sections will approximate that figure.

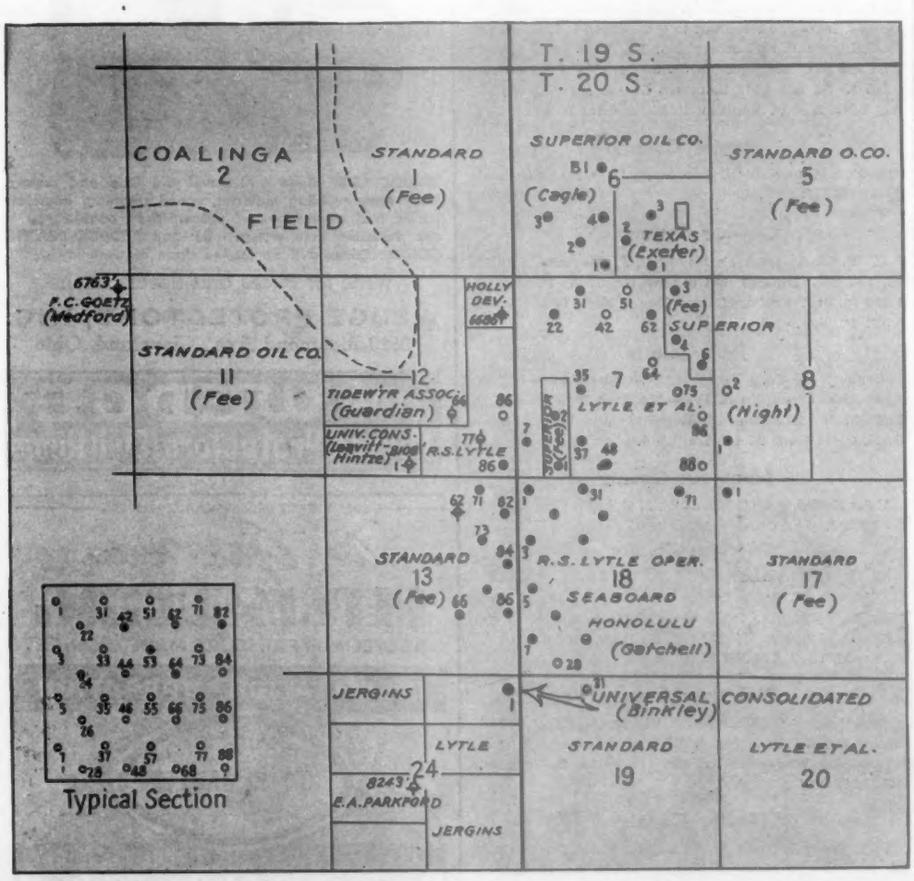
No. 27-7-Q of Standard Oil Co., a current completion in the Eocene in Section 7-22-18, clearly indicates the status and productive capacity of this lower productive horizon. This well, the first to be completed in the Eocene on top of the structure, was brought in flowing 213 bbl. of 50.1-gravity oil and 8,325,000 cu. ft. of gas per day through a 20/64-in. bean from the Eocene with bottom of the hole at 9,855 ft. That the well is capable of greatly increased production of gas and possibly crude oil is evidenced by the fact that the tubing pressure is 3,400 lb. and the casing pressure has been running 3,600 lb. This well, which reached the top of the Eocene higher on the structure than any well in the field, was finished with 9⅝-in. casing cemented at 6,158 ft., 6⅝-in. casing cemented at 9,420 ft. and 468 ft. of 4¾-in. drillable liner landed at 9,852 ft. and carrying 180-mesh perforations at 9,438-9,852 ft. and 9,723 ft. of 2½-in. tubing. Top of the Eocene was cored and logged at 9,471 ft. and the well has an elevation of 1,049 ft. The well is as close to the axis of the Kettleman Hills structure as it could be and in contrast with previous deep Eocene drilling No. 27-7-Q of Standard Oil Co. is almost midway on the structure between the east and west flank, in the very center of the structure.

A second Eocene well was completed this week when No. 4 Huffman of Superior Oil Co. was brought in flowing 275 bbl. of 52.1-gravity oil and 7,500,000 cu. ft. of gas per day from 10,816 ft. This former upper-zone producer which was redrilled and deepened from the Temblor to the Eocene is in the Huffman or western end of the Kettleman structure on the property that has been designated as the master Eocene operating unit by Kenda's engineers under the proposed plan for production sponsored by Kenda. No. 4 Huffman shows the same characteristics shown by No. 27-7-Q of Standard Oil Co. in that both show relatively small production of high-gravity oil and excessively high gas-oil ratios. The difference in depth is due to the fact that No. 27-7-Q of Standard Oil Co. is located on top of the structure, whereas No. 4 Huffman is situated far out on the northwest plunge of the structure. For a long time it has been conjectural whether the Eocene extended eastward from the Huffman area in other sections. No. 27-7-Q, because of its position both geologically and geographically, definitely indicates the Eocene is common to practically the entire productive section.

No. 4 Huffman was finished with a 7-in. water string cemented at 10,295 ft. and 535 ft. of 4¾-in. liner including 415 ft. of perforated landed at 10,816 ft. Above the liner the company ran in a 4¾-in. flow string which was used in place of the usual string of 2½-in. tubing. Top of the 4¾-in. liner was at 10,281 ft. and bottom of the 4¾-in. flow string was at 10,263 ft. Due to the large volume of gas involved and the fact that Kenda's proposal to restrict drilling and production activities in the Eocene were under consideration, No. 4 Huffman was shut in immediately. Union Oil Co., instead of killing and deepening one of its Temblor producing wells, has decided to begin a new well at the grass roots direct to the Eocene. Other Eocene wells under way include No. 334-18-J of Kenda and Nos. 27-19-J, 72-19-J, 321-29-J, and 334-29-J of Standard Oil Co. with a possibility that one or more of the several locations staked may later be carried into the deep zone.

Coalinga

Five excellent flowing wells were completed in the Southeast and Northeast Coalinga fields of Fresno County this week and additional wells can be expected during the next several weeks. Up in the Northeast Coalinga field, Union Oil Co. completed No. 57-18 Cook in Section 18-19-16 flowing 275 bbl. of 34.9-gravity oil and 2,000,000 cu. ft. of gas per day from the Avenal zone, with bottom at 8,641 ft. This well, the smallest completion listed, was brought in behind a very small bean and its initial does not represent its capacity. No. 57-18 Cook was bottomed in the Moreno shale, the upper member of the Cretaceous, but was plugged back to the Eocene at 8,199 ft. The hole was finished with a 7-in. water string cemented at 8,055 ft. and 226 ft. of 5-in. blank liner that was cemented at 8,179 ft. and then gun-perforated at 8,155-8,160 ft. No. 75-18 Cook, another well on the same lease, is in the pay at 7,971 ft. and has a 7-in. water string cemented at 7,880 ft. A third well, No. 88-18 Cook in the same section, has been drilling for only about a week. West of Union's Cook lease, Bandini Petroleum Co. is rotating in siltstone at 7,700 ft., the top of the Glauconitic having been cored at 7,450 ft. Southeast of Union's Cook lease, Amerada Petroleum Corp. has passed 6,900 ft. in No. 22-20-B Ewing in Section 20-19-16 and should have it ready for test within a few weeks.



Universal Consolidated Oil Co. extended the southern limits of production in the Southeast Coalinga field by completing No. 81-24-C Binkley in Section 24-20-15 flowing 4,236 bbl. daily. A typical section shows the system of numbering all wells in this and several other California fields. Staggered locations permit the drilling of one well to each 20 acres

Important Outpost

Universal Consolidated Oil Co. extended the southern limits of production in the Southeast Coalinga field by completing No. 81-24-C in Section 24-20-15 flowing

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Advantages of the BUILT-IN COUPLING

Integral Part of Hose
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Leak-Proof . . . under any drilling pressure; no shut-down time
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Streamlined . . . no flanges, nozzles, bolts, nuts, clamps, hydraulic nipples
Trouble-Free In Hook-up. No maintenance
Male Threads Both Ends of Hose . . . additional connections minimized
Toughest Alloy Steel . . . light weight

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Tremendous Strength . . . More than ample for drilling pressures
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Extreme Flexibility under all drilling pressures
Perfect Balance . . . hangs naturally without distortion

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CONTINENTAL

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	December 31		December 24			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	27,998	4,000	946,537	924,037
Fuel oil	.....	.....	.....	.....	2,100,141	338,079
Diesel and gas oil	.....	.....	85,778	12,254	249,279	.....
Gasoline	8,131	1,162	18,907	2,714	3,521,489	2,932,509
Kerosene	64,443	9,206	.....	.....	289,640	333,626
Foreign exports—						
Crude oil	601,624	85,946	196,400	28,057	15,526,999	21,152,074
Fuel oil	107,803	15,400	45,854	6,551	8,799,971	9,015,804
Diesel and gas oil	396,956	56,708	.....	.....	8,164,605	5,814,670
Gasoline	164,726	23,532	106,243	15,178	7,300,836	8,447,664
Kerosene	.....	.....	.....	.....	1,830,056	1,194,589
Asphalt	.....	.....	.....	.....	.....	8,144
Lubricants	.....	.....	.....	.....	165,166	210,118
Coastwise-domestic—						
Crude oil	170,612	24,373	163,481	23,354	12,426,659	11,324,135
Fuel oil	155,733	22,248	201,007	28,715	10,589,086	12,540,710
Diesel and gas oil	60,585	8,655	49,624	7,089	2,335,303	1,351,826
Gasoline	212,659	30,380	240,211	34,316	16,598,446	14,725,422
Kerosene	16,117	2,302	29,618	4,231	238,525	258,351

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Fuel oil	.....	.....	.....	.....	188,882	.....
Diesel and gas oil	.....	.....	.....	.....	386,588	320,231
Gasoline	.....	.....	.....	.....	43,235	25,409
Kerosene	.....	.....	.....	.....	100,507	16,124
Asphalt	.....	.....	.....	.....	501,323	490,039
Lubricants	.....	.....	.....	.....	24,870	19,945
Foreign exports—						
Crude oil	207,924	29,703	284,405	40,629	5,937,261	5,307,470
Fuel oil	90,544	12,935	88,938	12,705	3,129,034	2,518,311
Diesel and gas oil	25,233	3,605	37,048	5,293	2,728,870	3,480,022
Gasoline	45,992	6,570	.....	.....	3,047,281	5,379,600
Kerosene	18,914	2,702	.....	.....	651,468	696,099
Asphalt	.....	.....	.....	.....	22,323	56,258
Lubricants	.....	.....	.....	.....	642,722	585,037
Other finished oil	.....	.....	.....	.....	815	.....
Coastwise-domestic—						
Fuel oil	130,168	18,595	180,255	25,751	6,514,953	6,873,460
Diesel and gas oil	35,615	5,088	46,922	6,703	1,442,386	1,637,969
Gasoline	202,409	28,916	234,605	33,515	8,215,349	7,946,727
Kerosene	30,132	4,305	45,210	6,459	1,053,863	708,113

4,236 bbl. of 31.4-gravity and 1,600,000 cu. ft. of gas daily from the Gatchell zone with bottom at 7,911 ft. This well, which was brought in flowing through a 16/64-in. bean behind a tubing pressure of 1,100 lb. and a casing pressure of 1,150 lb., was finished with a 7-in. water string cemented at 7,595 ft. and 344 ft. of 5½-in. liner that froze at 7,780 ft. and had perforations at 7,436-7,642 ft., 7,683-7,780 ft. Top of the Kreyenhagen was logged at 6,236 ft., top of the Canoas silt at 7,483 ft., top of the Glauconitic at 7,521 ft., and top of the productive Gatchell zone at 7,623 ft. It is producing from 288 ft. of Gatchell oil sand, but since the bit was still in the pay when drilling was concluded it is unknown how thick this zone is at this point. No. 81-24-C of Universal Consolidated Oil Co. is the most southerly producing well in the Southeast Coalinga field and its completion proves several additional locations north, east, and possibly westward. South of this well E. A. Parkford drilled a duster and thus the outer limits of production are somewhere between No. 81-24-C of Universal Consolidated and Parkford's dry hole in the southern part of the same section in which the new well is located.

The last well completed in the Southeast Coalinga field of Fresno County this week was No. 31-19-F of Standard Oil Co. in Section 19-20-16. This producer was brought in flowing 3,922 bbl. of 30.9-gravity oil and 2,770,000 cu. ft. of gas from the Gatchell zone with bottom at 7,955 ft., with a 7-in. water string cemented at 7,385 ft. R. S. Lytle, operating for Seaboard Oil Corp. (25 per cent), Honolulu Oil Corp. (25 per cent). and stockholders of the now liquidated Petroleum Securities Co. (50 per cent) has completed No. 22-7-F in Section 7-20-16 flowing 1,896 bbl. of 32.6-gravity and 950,000 cu. ft. of gas from the Gatchell zone with bottom at 7,068 ft. This well, which was brought in flowing through a 24/64-in. bean behind a tubing pressure of 1,175 lb. and a casing pressure of 1,275 lb., was finished with an 8⅝-in. water string cemented at 6,667 ft. and 428 ft. of 6⅝-in. liner landed at 7,068 ft. and carrying perforations at 6,676-6,753 ft., 6,783-6,939 ft., and at 6,975-7,049 ft. Top of the Kreyenhagen was cored at 5,533 ft., top of the Glauconitic was found at 6,600 ft., top of the productive Gatchell zone was logged at 6,676 ft., and base of the Gatchell zone was encountered at 7,053 ft.

Texas Co. completed an excellent flowing well in the northeastern end of the field when No. 4 Exeter fee in Section 6-20-16 was brought in flowing 1,290 bbl. of 32.4-gravity oil and 900,000 cu. ft. of gas from the Gatchell zone with bottom at 8,002 ft. This well was finished with a 7-in. water string cemented at 7,970 ft. Top of the Kreyenhagen was cored at 6,750 ft., top of the Glauconitic was logged at 7,954 ft., and top of the productive Gatchell zone was found at 7,974 ft. Operators interested in the Northeast and Southeast Coalinga fields of Fresno County are watching No. 51-30-B of Bandini Petroleum Co. in Section 30-19-16 as this outpost, about midway between the two productive areas, should determine whether there is any affinity between these fields. There has been a general opinion that this is one large field extending around the edge of the East Coalinga field in the area that at one time was believed to be a shore line. Wilshire Oil Co. drilled a well between these two fields but suspended operations several weeks ago when the well failed to show commercial production. While the hole was being drilled, considerable oil and gas was found but it failed to show production after the water string had been landed and cemented. It may be possible the oil sand may have become mudded off during a fishing job.

San Joaquin Basin

Superior Oil Co. focused the attention of operators on the Rio Bravo field of Kern County by completing No. 2 Fink in Section 27-28-25 flowing 3,280 bbl. of 32.9-gravity oil and 2,900,000 cu. ft. of gas from the Rio Bravo sand with bottom at 11,480 ft. This well has a 7⅝-in. water string set on top of the pay at 11,241 ft. and its large initial indicates the northwest end will ultimately be found the most prolific. There has been a tendency for operators to move northwest. In the same Section 27-28-25 Superior Oil Co. has No. 2 Burner in the pay at 11,212 ft. and should be ready for a test soon. Union Oil Co. had the misfortune to stick 7-in. casing in No. 21-34 Kern County Land in Section 34-28-25 at 6,700 ft. and while this was taking place the well got away and ran uncontrolled for 2 days before it sanded up. The blow was at the rate of approximately 30,000,000 cu. ft. daily and as soon as the flow had subsided the crew reentered the hole and began washing over the 7-in. casing. This well is down 11,190 ft. on top of the pay and the 7-in. was to be set at about that point on top of the pay. In the Greeley field of Kern County, Standard Oil Co. has completed No. 11-21 Kern County Land in Section 18-29-26 flowing 2,030 bbl. of 35.3-gravity oil and 1,710,000 cu. ft. of gas from 11,510 ft. This well, which was brought in flowing through a 20/64-in. bean behind a tubing pressure of 1,650 lb. and a casing pressure of 1,680 lb., topped the Vedder zone at 11,392 ft. and logged top of the Rio Bravo zone at 11,374 ft. The hole was finished with a 7-in. water string cemented at 11,395 ft. and 167 ft. of 5-in. liner landed at 11,509 ft. and carrying 60-mesh perforations at 11,434-11,509 ft.

Wilmington

Four wells were completed in the Wilmington field, but none, due to the practice of eliminating flow tests because of curtailment, showed large production. Union Pacific Railroad Co. had the largest completion when No. 122 was brought in flowing 1,190 bbl. of 26.3-gravity oil cutting 4 per cent from the Terminal zone with bottom at 3,989 ft. This well was finished with an 11¾-in. water string cemented at 2,596 ft. and a series of combination liners. A total of 489 ft. of blank 9⅝-in. liner was landed at 2,930 ft. and then a 7-in. liner with perforations at 2,930-3,401 ft. was landed and cemented at 3,517 ft. The Terminal zone liner in the bottom of the hole consisted of 494 ft. of 4½-in. pipe landed at 3,985 ft. and perforated at 3,615-17 ft., 3,635-70 ft., 3,286-3,713 ft., 3,723-3,800 ft., 3,820-36 ft., 3,851-3,915 ft., and 3,930-85 ft. The 3,412 ft. of 2½-in. tubing used had a packer. No. 124, finished at 3,513 ft., and No. 21-E, at 3,965 ft., are scheduled to be the next completions of Union Pacific and both should be tanking oil before the close of another week.

General Petroleum Corp., discoverer of the most prolific section of the Wilmington field, completed a small Ranger-zone well when No. 6 Blinn was completed flowing 65 bbl. of 14.3-gravity oil through a 32/64-in. bean from 3,325 ft. after finishing the hole with a 9-in. water string cemented at 2,963 ft. and 453 ft. of 5⅝-in. liner landed at 3,323 ft. and carrying gravel-packed perforations at 2,937-3,323 ft. Vulcan Oil Co. completed No. 1-W pumping 180 bbl. of 27.6-gravity oil cutting 5 per cent from the Ford zone with bottom at 5,724 ft. This well was finished with a 9-in. water string cemented at 2,639 ft. and a solid string of 5⅜-in. landed at 5,724 ft. and cemented through perforations at 4,792 ft. Gunned perforations were at 5,100-45 ft., 5,345-85 ft., and 5,470-90 ft. No. 10 Harbor of Wilton Oil Co. has been completed flowing 133 bbl. of 17.1-gravity oil cutting 4 per cent from the Ranger zone at 3,695 ft. The hole was finished with an 8⅝-in. water string cemented at 3,010 ft. and 745 ft. of 5½-in. liner landed at 3,695 ft. and perforated at 3,010-3,245 ft., 3,410-3,605 ft., and 3,635-95 ft. The 3,335 ft. of 2½-in. tubing had a packer at 2,925 ft.

Los Angeles Basin

Two wells were put on production in the Montebello field. No. 1 Paul Howard of Union Oil Co., originally completed in 1938, was returned to production flowing 570 bbl. of 38.2-gravity oil and 1,460,000 cu. ft. of gas from 6,690 ft. This well was redrilled and deepened to the Masser zone at 6,244 ft. The hole was finished with 1,369 ft. of 5½-in. liner landed at 6,688 ft. and perforated at 6,628-88 ft. The liner, after being cemented through perforations at 6,624 ft., was gun-perforated at 6,320-90 ft. and 6,659 ft. of 2½-in. tubing with a packer at 6,307 ft. was run in. Kern Oil Co., discoverer of deep-zone production in the Montebello field late in 1937, this week completed No. 35 Monterey flowing 485 bbl. of 36.6-gravity oil cutting 3 per cent along with 824,000 cu. ft. of gas daily from 6,736 ft. This new well was finished with a string of 8⅝-in. casing cemented at 6,650 ft. and then gun-perforated at 6,135-6,280 ft. and 6,348-6,438 ft. In the bottom of the hole the company ran in 136 ft. of 5-in. liner which was landed at 6,736 ft. and perforated at 6,639-6,736 ft.

In the Seal Beach field of Orange County, Continental Oil Co. has recompleted No. 25 Bixby flowing 2,685 bbl. of 27.3-gravity oil and 785,000 cu. ft. of gas from the Selover zone with bottom at 4,775 ft. Production was stepped up by gun-perforating in the Selover zone after the hole had been finished with 275 ft. of 5-in. drillable liner landed and cemented at 4,775 ft. and then gun-perforated at 4,600-4,775 ft. This well was completed back in 1928 as a small producer in the Selover zone. In the Long Beach field, Atlantic Oil Co. has completed No. 14 Signal pumping 141 bbl. of 24.2-gravity oil cutting 22 per cent daily from a depth of 3,340 ft. This well was finished with a 7-in. water string cemented at 3,190 ft. and 140 ft. of 4½-in. liner landed at 3,340 ft. and carrying perforations at 3,190-3,340 ft.

Coastal District

Two more excellent flowing wells were completed in the prolific Ventura Avenue field of Ventura County. No. 105 Taylor of Shell Oil Co., Inc., was completed flowing 1,871 bbl. of 30.7-gravity oil and 2,212,000 cu. ft. of gas from 7,257 ft. and No. 9 Hartman of British American Oil Producing Co. and Bolsa Chica Oil Co. was completed flowing 692 bbl. of 31.3-gravity oil and 350,000 cu. ft. of gas from the 57 zone with bottom at 7,257 ft. No. 105 Taylor which is in the south central part of the Taylor lease was finished with a 7⅝-in. water string cemented at 6,725 ft. and a 5½-in. liner hung at 7,254 ft. with perforations at 6,728-6,890 ft. and at 6,933-7,254 ft. Tubing pressure has been holding steady at 300 lb. and casing pressure at 1,100 lb. No. 9 Hartman, a joint well of British American Oil Producing Co. and Bolsa Chica Oil Co., was finished with a 7-in. water string cemented at 7,740 ft. and 223 ft. of 5½-in. liner landed at 7,940 ft. and perforated at 7,742-7,940 ft. and 7,917 ft. of 2½-in. tubing.

Rocky Mountain Area

By T. R. INGRAM

Deep Test to Be Drilled in Huerfano County, Colorado

DENVER, Colo., Jan. 8.—Freight rates on petroleum products from Denver to southwestern and western Colorado have been put into effect to adjust new competitive conditions. Rates announced by the Interstate Commerce Commission affecting shipments from the East and West into the Montana-Idaho territory were made effective December 22, following denial of a court injunction to the railroads.

The Sideman-White interests have moved rotary equipment into Huerfano County, Colorado, for a deep test.

The Jicarillo Indian Reservation in northern New Mexico, comprising 750,000 acres, has been opened for oil and gas exploration and Indian leases on three structures will be offered at auction on February 1.

A gas discovery was made on the Horne Valley structure, Carbon County, Wyoming, in Martin & Gaylord's No. 1 Horne Brothers. Lance Creek had one completion in Ohio Oil Co.'s No. 1 Putnam for 1,470 bbl. after plugging off the Joss sand. Continental Oil Co.'s No. 5-A Dielman found saturation in the Joss sand on the southeastern side. This sand now is believed to blanket the entire field. Minnelusa Oil Corp.-Mackinnie Oil & Drilling Co.'s No. 7 Thompson made 70 bbl. an hour initial through the casing from the Leo sand. Lance Creek had one new operation.

Minnelusa-Henderson Producing Co.'s test in the Dakota on the Montana side of the Elk Basin field was completed as a small gas well.

Cut Bank had one completion in Texas Co.'s No. 2 Lindquist, swabbing 45 bbl. initially. A 3,200,000-cu. ft. gas well was completed in the Bowes field in the Independent Natural Gas Co.'s No. 2 Stranahan.

NEW MEXICO

With little in the way of wildcat or pool-extension activity being reported during the past week, the Loco Hills pool's increasingly active development campaign centered the majority of the interest in the New Mexico district.

Early in the week Agro Oil Corp. staked a north offset to the discovery well in the Halfway pool of extreme western Lea County. It is the firm's No. 1 State, 990 ft. north of Westlea Oil Co.'s No. 1-A State, and located 2,310 ft. from the north and 1,980 ft. from the west lines of Section 16-20-32.

In the southeastern quarter of Lea County Culbertson & Irwin, Inc.'s No. 1 T. M. Lankford, semiwildcat ½ mile west of the same operator's No. 1 Lee Carter, small discovery well, is drilling plug from casing at a total depth of 3,475 ft. in lime. The well attracted attention 2 weeks ago when it blew out at 3,030 ft. with an estimated 75,000,000 to 100,000,000 cu. ft. of gas daily. It is located in the C NE NW Section 25-23-36, about a mile northeast of a 2,930-ft. dry hole by Continental Oil Co. several years ago.

Southeast outpost to the Loco Hills pool, however, between the pool proper and the recent 2½-mile southeast extension by Kersey & Co., Franklin Petroleum Co. abandoned its No. 1 Mastellar at a total depth of 2,875 ft. in lime. Sulfur water in the last 2 feet was found. Only 1 ft. of oil sand was drilled from 2,829-30 ft. It was 330 ft. from the north and 2,310 ft. from the east lines of Section 7-18-30.

A cut of almost 2,000 bbl. in the daily allowable of the State of New Mexico was made last week by the state Oil Conservation Commission. The January daily allowable has been set at 101,900 bbl. as compared with the December daily allowable of 110,000.

Eddy County

Addison's No. 1 Sullivan, 600 ft. from N and E lines, Sec. 29-18-31. C.O. 3,570 ft.; swbd. 50 bbl., 4 hrs.
Knox & Brewer's No. 1 Fred Hess, 330 ft. from N and W lines, Sec. 21-16-29. C.&P.
Everts' No. 1 Greer, SE cor. Sec. 31-16-31. Drlg. 3,450 ft.
L. R. Manning's No. 1 Patton-McClay, 330 ft. from N and 1,650 ft. from E lines, Sec. 21-18-30. Topped oil sd. at 3,009 ft.; drlg. ahead toward regular pay zone; testing pay 3,004-3,133 ft.; H.F.O.; no flows.
G. A. Grober's No. 1 Wright, 1,980 ft. from N and W lines, Sec. 25-18-29. Tstg. S.O.&G. 1,382 ft.; est. 10 B.O.P.D.; S.I. 1,711 ft.
McClure & Swift's No. 1 State, 660 ft. from N and 1,980 ft. from E lines, Sec. 20-19-20. S.D.O. 2,215 ft.
Mac T. Anderson's No. 1 L. J. Root, 660 ft. from S and 660 ft. from W lines, Sec. 27-9-30. Drlg. 2,380 ft.
G. R. Burke's No. 1 State, NE NE NW Sec. 36-16-24. C.O. 2,300 ft.
Artesia Drlg. Co.'s No. 1 Hoffman, SE SE SE Sec. 14-17-24. Drlg. 645 ft.
J. R. Cones et al's No. 1 Saunders, SE SE NW Sec. 13-17-27. S.O. 505 ft.; S.D.O. 600 ft.
L. E. Elliott's No. 1 Elliott, SE SE SE Sec. 24-18-29. S.S.O. 3,255-75 ft.; S.D.O. 3,435 ft.
Franklin Pet. Corp.'s No. 1 Masteller, NW NW NE Sec. 7-18-30. S.D.O. 2,872 ft.; H.F.W.
Franklin Pet. Corp.'s No. 1 Cappedge, NW SW NW Sec. 5-18-30. S.S.G. 3,118-23 ft.; S.D.O. 3,453 ft.
J. W. Elliott's No. 1 Cannon (O.W.D.D.), C SW SE Sec. 4-19-30. S.D.O. 3,421 ft.; sulf. wtr.
Trojan Oil Co.'s No. 1 Grant, SW SW NE Sec. 33-20s-25e. S.O. 1,530 ft.; S.D.R. 1,580 ft.
Dodson Drlg. Co.'s No. 1 State, 2,310 ft. from N and 330 ft. from E lines, Sec. 17-16-29, ½ mi. N of Nolen's No. 1 Iles discovery well. C.&P.
Dodson Drlg. Co.'s No. 1 A. H. McElreath, 330 ft. from S and W lines, Sec. 3-16-29, 2½ mi. NE of Nolen pool opener. Est. 175,000 cu. ft. gas; drlg. 2,585 ft.
Anderson's No. 1 Hess, 330 ft. S and W lines, Sec. 10-16-29. Spdr. on ground.
Anderson's No. 1 Neeson, 330 ft. from W and 2,310 ft. from N lines, Sec. 4-16-30. S.D.R. 285 ft.
C. B. Buck's No. 1 State, 330 ft. from S and 4,290 ft. from E lines, Sec. 31-16-29. Drlg. 1,920 ft.
Culbertson & Irwin's No. 1 Welsh, 660 ft. from N and W lines, Sec. 19-20-31. Drlg. 2,510 ft.
Dave Elder's No. 1 Hess, 1,650 ft. from N and 330 ft from W lines, Sec. 21-16-29. Drlg. 2,350 ft.
A. E. Frazier's No. 1 H. E. Yates, 330 ft. from N and 1,650 ft. from E lines, Sec. 6-20-27. Drlg. 975 ft.
Frederick's No. 1 Reed, 1,980 ft. from S and W lines, Sec. 28-24-38 (O.W.D.D.). C.O.; T.D. 2,770 ft.
Harvey et al's No. 1 Kistler, 330 ft. from S and W lines, Sec. 9-18-30. S.D.O. 3,202 ft.; sulf. wtr.
Jack Harris' No. 1 Josey, 370 ft. from S and 2,310 ft. from W lines, Sec. 20-20-23. M.I.M.
F. E. Miller's No. 1 Young, 1,650 ft. from N and W lines, Sec. 23-16-29. Prep. D.D. 225 ft.
Sam Montgomery's No. 1 Kaltenback, 330 ft. from N and W lines, Sec. 24-16-27. S.D.R. 400 ft.
Sam Weiner's No. 1 Hess, 330 ft. from S and E lines, Sec. 9-16-29. W.O.C. 1,785 ft.
Thomas & Bowers' No. 1 H. W. Etz, 2,310 ft. from N and 330 ft. from W lines, Sec. 13-16-30. S.D.R. 464 ft.

Chaves County

H. E. Yates' No. 1 Johnson, 660 ft. from N and 1,980 ft. from W lines, Sec. 24-15-28. Drlg. 3,145 ft.
G. H. Cowden's No. 1 Brunson, 330 ft. N and W lines, Sec. 27-9s-30e. C.&P.
Grastorff-Caudill & French's No. 1-A Smith (O.W.D.D.), Sec. 1-4-29. S.D.R. 3,686 ft.
E. J. Fisher's No. 1 Hill, CSL S½ Sec. 8-15-25. S.D.O. 850 ft.
Tarkenton Bros.' No. 1 Peters, SE SE NW Sec. 33-11-25. S.S.O. 1,280-85 ft.; S.D.O. 1,324 ft.
Helmes & Martin's No. 1 Stephens, 660 ft. from N and 1,980 ft. from E lines, Sec. 22-15-29. Drlg. 1,515 ft.
Sam Sanders' No. 1 T. H. fee, 2,310 ft. from N and W lines, Sec. 25-15-29. Drlg. 2,760 ft.
T. S. Stanfield's No. 1 Bogle, 330 ft. N line and 2,310 ft. E line, Sec. 27-13-25. Drlg. 280 ft.

Dona Ana County

Picacho O. & G. Co.'s No. 12 Armstrong, Sec. 15-23s-1w. W.O. csg. 2,620 ft.
Slack & Mahres' No. 1 Simmons, Sec. 35-22s-5e. Tstg. D.P. 2,785 ft.

Luna County

O. D. Berry's No. 1 Berry, SE SE SW Sec. 33-22s-10w. S.D.O. 1,000 ft.

Lea County

Culbertson & Irwin's No. 1 Lankford, 660 ft. from N and 1,980 ft. from W lines, Sec. 25-23-36. Gas from 2,955-3,007 ft.; increased to 75,000,000 cu. ft. per day at 3,030 ft.; T.D. 3,368 ft.; fsg. D.P. 3,030 ft.
Westlea Oil Co.'s No. 1-A State (formerly Frank Facley's), Sec. 16-20-32. Discovery well for Halfway pool. Pay section 2,692-31 ft.; comp.; 1,500 B.O.P.D.
Barefield & Brooks' No. 1 Walker, 1,980 ft. from N and 660 ft. from E lines, Sec. 5-18-32. C.O. 3,660 ft.; flwd. by heads from sat. 3,685-3,700 ft.; S.I.; swbd. 80 B.O. P.D.; tstg. 3,700 ft.; comp.; 50 B.O.P.D.
Leonard Oil Co.'s No. 1 Ginsberg, 1,980 ft. from N and 660 ft. from W lines, Sec. 7-25-38. Prep. abd. 3,975 ft.; sulf. wtr.
J. D. Barefield's No. 2 Stroup, 1,980 ft. from N and E lines, Sec. 12-18-32. S.D.R. 520 ft.
Culbertson & Irwin's No. 1 Lea, 660 ft. from N and E lines, Sec. 8-19-32. Rng. electrical survey; prep. to abd. at 3,150 ft.
Argo Oil Corp.'s No. 1 Texas Co.-State, west offset to Westlea Oil Co. pool opener. S.I. storage; swbd. 100 B.O.P.D.; T.D. 2,657 ft.; P.O.P.
Westlea Oil Co.'s No. 1 Texas Co.-Cleveland, 2,310 ft. S of Westlea pool opener and 330 ft. from N and 1,980 ft. from W lines, Sec. 21-20s-32e. S.D.O. 2,672 ft.; sulf. wtr.

Otero County

Ernest's No. 1 Ernest, Sec. 20-25-7. S.D. 2,504 ft.
Otero Oil Co.'s No. 1 State, SE NW Sec. 5-22-10. S.D. 736 ft.

SOUTHEAST NEW MEXICO COMPLETIONS

Chaves County

A wildcat, Comanche Drilling Co.'s No. 3 Sloop, Section 15-11-26, plugged and abandoned at 1,386 ft.

Eddy County

In the Loco Hills pool, Continental Oil Co. and Yates' No. 2 Travis, 330 ft. from south and 2,310 ft. from east lines of Section 3-18-29, gaged 152 bbl. in 8 hours through ¾-in. choke on tubing after shot in pay from 2,602-16 ft. Franklin Petroleum Co.'s No. 2-B Ballard, 2,310 ft. from north and east lines of Section 1-18-29, gaged 700 bbl. daily through open tubing after shot in pay from 2,753-71 ft. Premier Petroleum Co.'s No. 3-F Beeson, Section 31-17-30, gaged 440 bbl. through ¾-in. choke after shot in pay from 2,827-50 ft. Sanders Brothers' No. 2 Murdock, Section 4-18-29, gaged 40 bbl. daily through open tubing after shot in pay from 2,520-2,775 ft.

In the High Lonesome pool Sy Pittman's No. 1 State, 330 ft. from south and west lines of Section 16-16-29, gaged 55 bbl. in 4 hours, pumping, from pay drilled from 1,810-45 ft. Powell's No. 1 Levers, 1,980 ft. from south and west lines of Section 33-16-29, gaged 4,300,000 cu. ft. of sweet gas daily from pay drilled from 2,255-65 ft.

In the Grayburg-Jackson pool Grayburg's No. 13 Burch, Section 19-17-30, gaged 206 bbl. daily through ¾-in. choke, naturally, from pay drilled from 3,132-62 ft.

Lea County

In the Eunice pool B. Cockburn's No. 2 Mattern, 330 ft. from south and west lines of Section 7-22-37, abandoned location. Wilson's No. 2 Shell-State, Section 7-21-35, pumped 82 bbl. in 10 hours after shot in pay drilled from 3,293 to 3,850 ft.

In the Hardy pool Gulf Oil Corp.'s No. 2-D Mattern, 2,310 ft. from north and 330 ft. from west lines Section 7-22-37, flowed 420 bbl. daily through open tubing after acid in pay from 3,680 to 3,740 ft. Magnolia Petroleum Co.'s No. 7 Brunson-Argo, 660 ft. from east and 1,980 ft. from north lines Section 9-22-37, flowed 49½ bbl. in 7 hours through ¼-in. choke after shot in pay from 3,636-3,739 ft. Peters' No. 4 Brunson, Section 3-22-37, flowed 34½ bbl. in 9 hours through open tubing after shot in pay from 3,550-3,739 ft. Rowan & Penrose's No. 1 Brown, 160 ft. from north and 1,650 ft. from west lines of Section 18-22-37, flowed 1,120 bbl. in 16 hours, naturally, through 1⅝-in. choke from pay drilled from 3,700-35 ft. Rowan & Penrose's No. 2 Brown, 660 ft. from north and 2,310 ft. from east lines of Section 18-22-37, flowed 10 bbl. hourly, naturally, from pay drilled from 3,675 to 3,728 ft.

In the Cooper-sand pool Gulf Oil Corp.'s No. 1 Rilia, 660 ft. from south and east lines of Section 17-24-37, flowed 70 bbl. daily through open tubing after shot in pay from 3,480-3,625 ft.

A wildcat, located 1½ miles east of the Langlie pool, Leonard Oil Co.'s No. 2 Ginsberg, 1,980 ft. from north and 660 ft. from west lines of Section 7-25-38, plugged and abandoned at 3,975 ft.

In the Skelly pool Peters' No. 2-H State, 2,310 ft. from east and 330 ft. from south lines Section 34-22-37, flowed 140 bbl. in 4 hours through open casing after shot in pay from 3,485 to 3,640 ft.

In the Vacuum pool Magnolia Petroleum Co.'s No. 3-G State, 1,980 ft. from north and east lines of Section 24-17-34, flowed 67 bbl. in 6 hours through open tubing

(Continued on Page 74)

A *New* NATIONAL U

THE NATIONAL

TYPE TU304 • HD30TB

★ ★ ★

BRIEF SPECIFICATIONS

API safe load of walking beam, pounds	12750
Polished rod strokes, inches	33, 40½, 48
Maximum counterweight effect at maximum polished rod stroke, pounds	8480
Over-all counterweight swing, maximum, inches	48
Reduction Gear:	
API peak torque rating at 20 spm., inch pounds	76500
Over-all gear ratio	29.6
Crankshaft diameter at bearings, inches	5
V-belt sheave pitch diameter, inches by number and section of belts	18x4C
V-belt sheave pitch diameter, maximum, inches	26
Well end working centers	6'0"
Length of base	11'7"
Width of base, inches	27¾"
Width of base at Samson post, inches	52"
Height bottom of base to top of beam	11'2"
Walking beam size and weight, CB section	16" x 58 lbs.
Wrist pins, tapered, large diameter by length, inches	2¾ x 4⅝
Weight, regular equipment less extension base and counterweights, pounds	8100
Weight, RK-36 crank counterweights, each	1225

EXECUTIVE OFFICES
PITTSBURGH, PENNA.
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GENERAL SALES OFFICE
TOLEDO, OHIO

THE NATIONAL

UNIT PUMPER...

THE Type TU304-HD30TB National Unit Pumper is compact and strongly built with all the features essential to the efficiency and long life yet it is economical in first cost.

It follows the same general design as the larger National Unit Pumpers and has National Eccentric Disc Cranks and Counterweights and Herringbone Type Reduction Gears.

Among features important to performance are centralized beam lubrication, fully equalized pitman assembly, automotive type service brake and walking beam adjustment.

The addition of this new pumper to the National Line makes it easier for an operator in the medium service fields to select a unit exactly fitted to his needs.

For complete details on this new Unit ask for Bulletin No. 260.

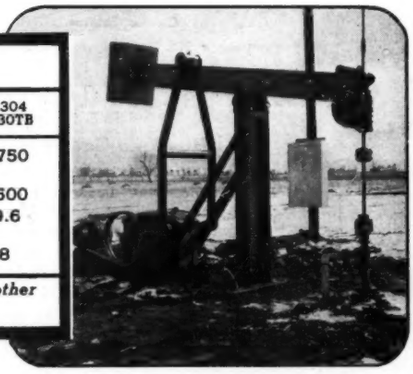
THE *NATIONAL* LINE OF UNIT PUMPERS

6 TYPES FOR LIGHT AND MEDIUM SERVICE

BRIEF SPECIFICATIONS

	TU20G -JD2TP	TU70G -JD7TP	TU140G -JD14TP	TU234G -JD23TP	*TU234 -JD23TP	*TU304 -HD30TB
API Walking Beam Rating, lbs.	3000	4000	6170	9125	9125	12750
Peak torque rating API inch lbs. at 20 spm	5400	17900	36800	57200	57200	76500
Over-all gear ratio	26.0	24.9	24.9	29.8	29.8	29.6
Maximum polished rod stroke, inches	15	24	32	42	42	48

** Equipped with National Eccentric Disc Cranks and Counterweights—other sizes have beam type counterweights.*



6 TYPES FOR MEDIUM TO HEAVIEST SERVICE

BRIEF SPECIFICATIONS

SINGLE REDUCTION TYPES DOUBLE REDUCTION TYPES	TU403-H40T TU403-HD40T	TU403-H60T TU403-HD60T	TU603-H60T TU603-HD60T	TU603-H80T TU603-HD80T	TU803-H80T TU803-HD80T	TU803-H110T
API Walking Beam Rating	11750	11625	18850	18750	24000	24000
Single Reduction Type:						
Peak torque rating inch lbs. at 20 spm	124000	170000	170000	238000	238000	303000
Over-all gear ratio	10.2	9.7	9.7	9.4	9.4	9.32
Double Reduction Type:						
Peak torque rating inch lbs. at 20 spm	98500	139000	139000	200000	200000	----
Over-all gear ratio	29.8	26.8	26.8	28.3	28.3	----
Maximum polished rod stroke, inches	48	54	54	64	72	72

All the above types are equipped with National Eccentric Disc Cranks and Counterweights.

L SUPPLY COMPANY

DIVISION OFFICES
FT. WORTH, TEXAS
TULSA, OKLA.
TORRANCE, CALIF.

after shot in pay from 4,583-4,726 ft. Magnolia Petroleum Co.'s No. 49 State-Bridges, 1,980 ft. from north and 660 ft. from east lines of Section 27-17-34, flowed 63 bbl. daily through open tubing after shot in pay from 4,456-4,604 ft.

In the Hobbs pool, Shell Oil Co., Inc.'s No. 1 Grimes, Section 28-18-38, flowed 57 bbl. in 15 hours from pay at 4,075 ft. (old well drilled deeper).

In the Lovington pool Stanolind Oil & Gas Co.'s No. 4-E State, Section 1-17-36, flowed 144 bbl. daily through 30/64-in. choke after acid in pay from 4,675-4,960 ft. Stanolind Oil & Gas Co.'s No. 5-E State, Section 1-17-36, flowed 159 bbl. daily through 12/64-in. choke after acid in pay from 4,740-4,977 ft.

NORTHWEST NEW MEXICO

The Jicarillo (pronounced Hic-a-reo) Indian Reservation comprising around 750,000 acres in northern New Mexico, principally Rio Arriba County, immediately to the south of the Colorado line, has been opened for exploration for oil and gas and the first sale of leases is scheduled at Duice, N. M., February 1.

San Juan County

Continental Oil Co.'s No. 101 Rattlesnake, SW SW SE Sec. 12-29n-19w. T.D. 50 ft.; cmtd. 13-in. at 25 ft.
Continental Oil Co.'s No. 100 Rattlesnake, SE NW NE Sec. 2-29n-19w. Drlg. L. 6,916 ft.
Southern Union Prod. Co.'s No. 6 Govt., SE SE SE Sec. 14-28n-11w. Drlg. below 2,000 ft.

COLORADO

The Colorado Public Utilities Commission has approved reductions in a number of intrastate rates on petroleum products proposed by the railroads, effective on January 1. The rate from Denver to Alamosa, for example, was reduced from 48 cents per 100 lb. to 33 cents, and from 50 cents to 33 cents from Denver to Grand Junction. Gramps Oil & Refining Co. (William E. Hughes estate) recently put into operation a new refinery at Alamosa and the reductions are expected to aid the Denver refineries in adjusting differentials in transportation costs.

Custer County

Henry Donnelly's No. 1 Hodges, SE NE Sec. 26-21s-69w. S.D. 1,500 ft.

El Paso County

F. F. Hintze et al's No. 1 State, CEL SE SE Sec. 16-11s-60w. Drlg. at 855 ft.; carrying 13-in.

Huerfano County

I. E. Sideman-White and others have moved in rotary equipment for a deep test in Section 33-26s-67w, approximately 5 miles northeast of S. W. Pressey's No. 1 Thorne, a drilling well in the Alamo district and 12 miles north and east of the shallow operations in the La Veta district. The operators have leased several structural areas in different parts of the county and propose to put down five tests in as many districts. Calvin W. White is in charge of the operation.

Harold F. Collins and others are drilling a shallow test ¾ mile southwest of the group of wells put down in the northeast corner of that section.

I. E. Sideman-White et al's No. 1 Martinez, C SW NE Sec. 33-36s-67w. Rotary equip. on loc.
Harold F. Collins et al's No. 1 Bartlett-Howard, SE NW Sec. 3-28s-68w. Drlg. 468 ft.

Park County

South Park Oil Co.'s No. 1 Lemar, NE NE SE Sec. 34-11s-75w. Drlg. 7,150 ft.

Washington County

Thurman Oil, Tr.'s No. 1 Ruby, NW NW SW Sec. 3-5s-52w. Drlg. sh.&L. 1,050 ft.

UTAH

Grand County

Big Six Oil Co.'s No. 1 Govt., SE¼ Sec. 23-22s-19e. Drlg. 450 ft.
Cane Creek Oil Co.'s No. 2 Shaffer, NW SW SW Sec. 31-26s-21e. T.D. 3,360 ft.; pmpg. oil and wtr.

Daggett County

Mountain Fuel Supply Co.'s No. 4 Murphy, SW SE SW Sec. 21-3n-24e. Drlg. 5,495 ft.

Summit County

Longwell Pet. Co.'s No. 1, SE SW SE Sec. 35-3n-5e. T.D. 3,216 ft. in sh.; U.R. 6¼-in. to bttm.

SOUTH DAKOTA

Harding County

South Dakota State Roy. Co.'s No. 1 State, SW NW Sec. 35-18n-1e. S.D. indef. 7,521 ft.

WYOMING

Carbon County

The Horne Valley structure was proven for gas in the Muddy sand at 750-805 ft., after plugging back from 1,200 ft., in Martin & Gaylord's No. 1 Horne Brothers, CNL NW SW Section 22-22n-78w, gaging 7,000,000 cu. ft. with a rock pressure of 325 lb. It had the top of the Wall Creek at 138 ft., the Dakota at 980 ft., and the Lakota at 1,118 ft. The structure lies east of the Allen Lake gas field, and on the same line of folding, the two domes being separated by a sharp syncline. The discovery is about 2 miles southeast of the Medicine Bow oil field, and ½ mile southeast of C. D. Cunningham's No. 1 Union Pacific, NW SE NE Section 21, which went to the Sundance in 1938 and was abandoned at 1,696 ft.

Sinclair-Wyoming Oil Co.'s No. 4-E, C SE SW Sec. 29-26n-87w. Drlg. 2,262 ft.; T. Dak. form. 2,125 ft.
Albert Dev. Synd.'s No. 1 Boeke, SW NW Sec. 18-25n-79w. Drlg. 800 ft. in Tensleep.
Ohio Oil Co.'s No. 15 Harrison-Cooper, SE NE NW Sec. 2-19n-78w. T.D. 3,327 ft. in Sundance sd.; 6⅝-in. cmtd. at 3,280 ft.; swbd. 30 B.O.P.D. while C.O.

Fremont County

F. F. Hintze's No. 1 Jones, CWL NW NW Sec. 7-28n-92w. T.D. 600 ft.; fsg.; S.G. est. at 3,000,000 cu. ft. in Frontier at 485-545 ft.

Natrona County

Continental Oil Co.'s No. 1 McGrath, C NW SW Sec. 15-34n-78w. T.D. 7,331 ft.; bailed ⅝ B.O. and ⅜ B.W. per hr. after perf. with 50 additional holes at 5,628-85 ft.; S.D. for the winter.
General Pet. Corp.'s No. 1-21-G, NW NW NW Sec. 21-35n-77w. Cmtd. 11¾-in. at 643 ft.; drlg. plg.

Niobrara County

Lance Creek had two completions, one near completion, and one new operation. The most important completion was Ohio Oil Co.'s No. 13 Carrie Putnam, C NW NW Section 4-35n-65w, within the proven area for the Leo sand, but which marks an extension on the east side for the Joss, or second bench of the Leo, a deeper pay discovered during 1939. It was drilled to 5,479 ft. and cased off the Leo sand with the 7-in. at 5,373 ft. It then cored saturated sand at 5,403-13 ft., 5,426-33 ft., and 5,445-55 ft. It plugged back and perforated opposite the Leo with 50 shots at 5,225-80 ft. and 12 shots at 5,300-07 ft., and started off flowing 50 bbl. an hour. It made 1,470 bbl. the first 24 hours.

The near completion is Continental Oil Co.'s No. 5-A Dielman, SE NW NW Section 8-35n-65w, in the southern part of the field, in the proven area for the Leo sand, but an outside well in the Joss sand. It was drilled to 5,585 ft. and cored saturated sand below the Leo at 5,427-44 ft., 5,556-61 ft., 5,563-68 ft., and 5,570-77 ft. It plugged back to 5,415 ft. and is waiting on cement to set before completing in the Leo sand.

The two wells mentioned, in conjunction with other tests drilled during the year point to the Joss, or second Leo sand as being productive over the field as far to the northeast as the NE cor. Section 34-36-65. The discoveries in this formation, with extensions of proven area of other sands adds around 20,000,000 bbl. of reserves to the field for 1939, bringing the total reserves up to around 70,000,000 bbl. or more.

The second completion was Minnelusa Oil Corp.'s No. 7 Thompson, SE NE NE Section 7-35n-65w, joint with Mackinnie Oil & Drilling Co., which had the Leo sand at 5,252-5,300 ft., which also is the total depth, which flowed 70 bbl. an hour through the casing and was rated at 840 bbl. per day through the tubing. It is an inside well on the southwestern side of the field.

Argo Oil Co.'s No. 12-A Elliott, SE NW NE Sec. 7-35n-65w. R.U.R.; (first report).
Minnelusa Oil Corp.'s No. 4 H. & M., NE NE SE Sec. 7-35n-65w. Rig; W.O. rotary.
Minnelusa Oil Corp.'s No. 1-B Joss, NE SW NW Sec. 7-35n-65w. Drlg. 3,538 ft.
A. B. Cobb's No. 5 Novick, NE NE NW Sec. 6-35n-65w. Drlg. 4,857 ft.
Ohio Oil Co.'s No. 4 Cash-1, NW NE SW Sec. 4-35n-65w. T.D. 4,294 ft.; fsg.
Ohio Oil Co.'s No. 6 Rohlff, SE NW NE Sec. 32-36n-65w. M.I.M.
Continental Oil Co.'s No. 5 Apex-O.P.C.-2, NW NW SE Sec. 34-36n-65w. Drlg. 4,042 ft.; T. Sundance 3,840 ft.
Continental Oil Co.'s No. 17 Tom Bell, SE SE NE Sec. 33-36-65w. Drlg. 3,940 ft.
Continental Oil Co.'s No. 5-A Dielman, SE NW NW Sec. 8-35n-65w. T.D. 5,585 ft.; P.B. to base Leo sd. at 5,415 ft. after tstg. Joss sd.; W.O.C.
Continental Oil Co.'s No. 6 Sam Joss, NW NW NE Sec. 6-35n-65w. T.D. 5,192 ft.; fsg.
Continental Oil Co.'s No. 4 Rodeo-4, SE NE NE Sec. 35-36n-65w. T.D. 3,708 ft.; fsg. for lnr.
Argo Oil Co.'s No. 1 Ong, SE SE SW Sec. 31-36n-65w. Drlg. 5,223 ft.

Park County

Mule Creek Oil Co.'s No. 1, Lot 51, Sec. 9-46n-101w. T.D. 2,740 ft.; W.O. csg. to S.O.W. before drlg. into Tensleep.

Sublette County

California Oil Co.'s No. 1 Unit 1, C SW NE Sec. 14-31n-109w. T.D. 10,003 ft.; rec. D.P.; rng. lnr. prep. to tstg.
North La Barge Oil Co.'s No. 3 Govt., SE SW SE Sec. 8-27n-113w. Spdg. 100 ft.; (first report).
Marvel Oil Co.'s No. 1, NE NE SE Sec. 28-27n-113w. T.D. 1,040 ft.; W.O. P.L. connection.
North La Barge Oil Co.'s No. 1 Govt., SW NE SE Sec. 8-27n-113w. T.D. 1,275 ft.; W.O. P.L. connection to complete.
North La Barge Oil Co.'s No. 2 Govt., CEL SE NE Sec. 28-27n-113w. T.D. 984 ft.; W.O. P.L. connection to complete.
Wyo. Pet. Corp.'s No. 1 Chas. Budd, C NE NE Sec. 10-29n-113w. T.D. 3,054 ft.; will P.B. and comp. as gas well.

Sweetwater County

Vermillion Oil Co.'s No. 2 Govt., SW SW SW Sec. 7-12n-99w. T.D. 2,500 ft.; cmtd. csg. on top sd. at 2,475 ft.; after drlg. plug failed to show oil or gas.
Sinclair-Wyoming Oil Co.'s No. 90-A, SW SW NW Sec. 11-26n-90w. R.U.R.; (first report).
Sinclair-Wyoming Oil Co.'s No. 89-A, SW SW NW Sec. 11-26n-90w. Drlg. 2,050 ft.; with C.T.; 7-in. cmtd. 2,019 ft. on T. Sundance.

MONTANA

Carbon County

Minnelusa Oil Corp.'s No. 1-H-11 Elk 11, SE SE NW Section 35-9s-23e, joint with Henderson Producing Co., Elk Basin field, was completed at 2,877 ft. for 1,200,000 cu. ft. of gas per day from the Dakota sand. The 5½-in. was cemented on top of the sand at 2,868 ft. Ten feet of Dakota was cored and showed some oil saturation and it was believed it would make a small oil well. In that event it would have been an oil discovery in that horizon as the five wells on the Wyoming side drilled to the Dakota all produced gas. It extends the gas area over into the Montana side of the field.

Ohio Oil Co.'s No. 9 Souders, C NE SW Sec. 2-7s-21e T.D. 5,511 ft.; pmpg. in attempt to exhaust wtr.
R. C. Tarrant's No. 2 McKay, C SE NW Sec. 4-6s-18e. Drlg. 2,990 ft.

Choteau County

Security Pet. Corp.'s No. 1 Johnson, C NE NE Sec. 23 26n-3e. S.D. 2,091 ft. to fill in lease blk.

Glacier County

The Cut Bank field had one completion and one new operation. Glacier Production Co.'s No. 2 Rigney, which last week was reported as having blown in for 80,000,000 cu. ft. of gas per day, has been shut in and it has not been announced whether an attempt will be made to drill the well into the Cut Bank sand.

Texas Co.'s No. 2 Lindquist, C SW SE Section 17-32n-5w, swabbed 55 bbl. the first 24 hours at 2,878 ft., total depth, from the Cut Bank sand at 2,850-76 ft. The main pay was at 2,872-76 ft.

Freight rates on the shipment of crude oil and refined products from Cut Bank on the east and Portland, Ore., on the west into the Spokane territory which were announced last August by the Interstate Commerce Commission went into effect December 22 after the railroads had sought an injunction to restrain the commission. The injunction was denied. This action followed a year-long fight for advantages in the inland empire by the Montana and Pacific Coast companies.

Glacier Prod. Co.'s No. 2 Lookhoff, C NW NE Sec. 33-33n-5w. R.O.G.; (first report).
Santa Rita O. & G. Co.'s No. 2 Rasmussen, NE SW SW Sec. 32-33n-5w. R.O.G.
Tarrant-Wiley's No. 3 Connolly, SE SW NE Sec. 31-34n-5w. Drlg. 2,420 ft.
A. E. Crumley's No. 3 Jones, NE NW SE Sec. 31-34n-5w. Cmtd. 7-in. at 2,783 ft.; W.O.C.
Wilkinson & Potter's No. 4 Allot. 127, 660 ft. N, 300 ft. W lines, Lot 1, Sec. 1-32n-6w. Drlg. 2,700 ft.
Glacier Prod. Co.'s No. 4 Miller, C NW NE Sec. 29-33n-5w. Cmtd. 7-in. at 2,957 ft.; W.O.C.
A. B. Cobb's No. 1 Osuri, C SW NW Sec. 30-37n-4w. R.O.G.
Texas Co.'s No. 2 State M-246, C NE NE Sec. 36-34n-6w. Cmtd. 7-in. at 2,990 ft.
A. B. Cobb-T. T. Co.'s No. 1 Unit D, C SW NE Sec. 18-36n-5w. T.D. 2,847 ft.; ran form. tstr. at 2,795 ft.; showed small gas and 200 ft. wtr.; will D.D.
Cobb-Reagan's No. 4 Jackson, SW SW SE Sec. 5-32n-6w. R.U.R.
Glacier Prod. Co.'s No. 2 Rigney, C SE SW Sec. 35-36n-6w. T.D. 2,970 ft.; S.I.

Hill County

Independent Natural Gas Co.'s No. 2 Stranahan, C SE SW Section 14-32n-17e, Bowes gas field, was completed in the Eagle sand at 1,289 ft., total depth, for 3,200,000 cu. ft. per day. The 7-in. was set at 1,270 ft.

J. Gudgel's No. 1 Mancin, SE NE NW Sec. 19-37n-15e. Drlg. below 1,200 ft.

Toole County

Casper T. Olen's No. 9 Engemoen, NW NE NW Sec. 14-35n-2w. S.D. 70 ft.
L. J. Yealy's No. 14 Shaw, NW SW NE Sec. 35-36n-2w. R.O.G.
Lemac Oil Co.'s No. 1, C NE NE Sec. 27-36n-2w. T.D. 1,130 ft.; wtr. sd. at 1,080-90 ft.; set 8¼-in. at 1,130 ft.
Frazier & Smith's No. 2 Van Note, NE SW NW Sec. 30-35n-2e. S.D. 1,380 ft.
Coolidge & Coolidge's No. 1 Maley, SW NE SE Sec. 31-36n-1w. S.D. 100 ft.
W. E. Rice Co.'s No. 4 Kearns, Lse. 8, C W½ E½ SE Sec. 18-35n-2w. T.D. 1,570 ft.; rng. 6⅝-in.
C. L. Smith, Agt.'s No. 1 Govt., SW SE NW Sec. 13-35n-2w. S.D. 1,345 ft.; fish rec.
Morton & Shaw's No. 2 Ellingson, SE NE NW Sec. 23-35n-3w. S.D. 650 ft.
Superior Pet. Co.'s No. 3 Haugen, C NE NE Sec. 11-35n-3w. Drlg. 824 ft.
A. Beardslee's No. 12 Swears, CSL SE NW Sec. 9-35n-2w. Drlg. 860 ft.

Yellowstone County

Calitana Oil Co.'s No. 1 Stallinberger, NE NE SW Sec. 18-3n-23e. T.D. 5,129 ft.; C.O. and prep. to run 7-in.

Michigan Field Report

By O. C. PRESSPRICH

Dozen Completions Reported With Thirteen New Locations

SAGINAW, Mich., Jan. 8.—Over the new year hump and its most productive year a matter of history, the Michigan oil industry faces the prospect of exploration for new fields in an effort to maintain activity at the record-setting pace of 1939.

The industry started 1940 by completing a dozen producers with total initial potential production of approximately 4,000 bbl. a day, listing 13 locations, plugging nine holes as dry and abandoning two unproductive-appearing locations. But, on the basis of the continued heavy demand for location franchises last November and December, operations are likely to show little or no letdown during the winter period.

A dozen new sectors gave some promise of commercial possibilities last year and while few of them developed immediately in importance they are assured of more extensive explorations in the months to come.

The first week of the new year saw new production concentrated, as has been usual most weeks since last summer, in southwestern Michigan, with the Kent-Ottawa field getting the bulk of the play. Six of the new producers are in Kent's Walker Township, three were in Ottawa County's Tallmadge Township, but the Redding pool of Clare County, most persistent area for the conservative development of new wells, again produced the biggest producer of the week. The Redding well, one developed by McClanahan Oil Co., is in Section 29-19n-6w. After being acidized its daily potential was raised to 1,000 bbl.

Best of the new Walker wells was Wolverine Natural Gas Corp.'s No. 2 Kniff, in Section 29, good for 800 bbl. initial, after being acidized, while C. J. Farley, trustee's No. 1 O'Brien, in the same section, did 600 bbl. after being acidized. The four other Walker wells ranged in productivity from 35 to 360 bbl. a day. Smith Petroleum Co.'s 600-bbl. No. 3 Heyboer, in Section 25 of Tallmadge, was the Ottawa portion's best well.

Three of four Van Buren County completions were dry holes, in Antwerp, Bangor, and Columbia townships, but in Columbia's Section 23-1s-15w, L. C. Neeley acidized No. 1 Sanders to get 50 bbl. initial.

Transwestern Oil Co., relatively a newcomer to Michigan development, recorded two failures, one a test in Hope Township of Barry County, 2n-9w, which was abandoned beyond the 1,900-ft. depth, the other the Antwerp test in Van Buren County. Osceola and Otsego counties also were locations for failures, but at West Branch Township, in Ogemaw County, Weber Oil Co. completed No. 9 Crawford for 30 bbl. a day. A Jackson County test was abandoned temporarily.

Seven of the 13 drilling permits granted by the state Conservation Department were for Tallmadge locations, three were for Allegan County tests, one each for Isabella, Tuscola, and Missaukee counties. Isabella County appears destined to be the scene of most activity in the central part of the state.

The state Tax Commission announced severance-tax collections for November totaled $43,690, compared to $41,591 in October, representing 2 per cent of the value of 2,038,603 bbl. of crude and 1,010,267,000 cu. ft. of gas produced in Michigan that month.

The Michigan completions summary for last week follows:

Barry County

Hope Township (2n-9w)—Transwestern Oil Co. abandoned No. 1 W. O. Tobias, NW NW NW Section 12, when the test remained dry at 1,905 ft.

Clare County

Redding Township (19n-6w)—McClanahan Oil Co.'s No. 1 Redding-State, C S½ NE NE Section 29, completed at 3,839½ ft., had initial potential of 1,000 bbl. a day, after being acid-treated.

Jackson County

Hanover Township (3s-2w)—Alfred G. Morency temporarily abandoned No. 1 J. Stuart, NE NE NW Section 13.

Kent County

Walker Township (6n-12w)—McGerry, Inc.'s No. 1 John Gavin estate, NW NW NW Section 5, rated 360 bbl. a day after treatment at 1,903 ft.

Walker Township (7n-12w)—Six hundred barrels a day after acid treatment was initial potential of C. J. Farley, trustee's No. 1 A. P. O'Brien and others, SE SE SE Section 29, completed at 1,915 ft. Wolverine Natural Gas Corp.'s No. 2 George Kniff and others, SW NW SE Section 29, was good for 800 bbl. a day, after acid, total depth being 1,905 ft. Edward B. Strom's No. 5 Park Association, SW NW NW Section 30, completed at 1,920 ft., was good for 65 bbl. a day, after acidizing, but Strom abandoned location for No. 6 Park Association, NW NW NW Section 30. Smith Petroleum Co.'s No. 6 John F. Cudahy and others, SE NE NW Section 33, produced 35 bbl. a day, after acidizing, at 1,946 ft. Walker Oil & Gas Co.'s No. 1 W. S. Proudfit, SW SW NW Section 34, yielded 75 bbl. a day after the hole was treated, total depth being 1,841 ft. Gordon Oil Co.'s No. 3 U. S. Gypsum Co., SW SE NW Section 34, was dry and abandoned at 1,920 ft.

Wyoming Township (6n-12w)—Crown Development Co. abandoned No. 1 W. Herpalsheimer estate, C W½ NW NW Section 13, as a dry hole at 1,892 ft.

Ogemaw County

West Branch Township (22n-2e)—Weber Oil Co.'s No. 9 U. S. and E. H. Crawford, NW SE NE Section 28, completed at 2,714 ft., rated 30 bbl. a day after acid treatment.

Osceola County

Marion Township (20n-7e)—D. E. Hughes' No. 1 Y. Bontekos, C S½ NE NE Section 11, was abandoned at 4,068 ft.

Otsego County

Chester Township (29n-2w)—Dr. L. W. Snow, trustee's No. 1 Robert Moore, NE¼ Section 13, was abandoned at 2,480 ft.

Ottawa County

Olive Township (6n-15w)—Mesel & Spielberg's No. 1 G. Harsevoorat, NE NW SW Section 20, was dry and abandoned at 1,607 ft.

Tallmadge Township (7n-13w)—C. C. Goff's No. 1 L. A. Sims, NE SE NW Section 24, acid treated at 1,933 ft., rated 80 bbl. a day. Smith Petroleum Co.'s No. 3 Adrian Heyboer, SW NW NE Section 25, completed at 1,857 ft., produced initially at the rate of 600 bbl. a day after being acidized. Twin Drilling Co.'s No. 2 F. D. McKay, NW NW NW Section 25, produced 288 bbl. a day at 1,885 ft., after acid treatment.

Van Buren County

Antwerp Township (3s-13w)—Transwestern Oil Co.'s No. 1 E. A. Prindle and others, SE SE NW Section 34, was dry and abandoned at 1,272 ft.

Bangor Township (2s-16w)—Welch Oil Co.'s No. 1 Harry Minshall, SE SW NW Section 21, was a dry hole, abandoned at 1,006½ ft.

Columbia Township (1s-15w)—L. C. Neeley's No. 1 Albert and William Sanders, SE SW NE Section 23, was good for 50 bbl. a day, after acid at 1,180 ft., but Consolidated Developers' No. 2-B Ada Ford, SW SE SW Section 12, was dry and abandoned at 1,360 ft.

Illinois Fields

(Continued from Page 59)

of it. The well is Denver Producing & Refining Co.'s No. 1 Dennis, NW NW NW Section 14-7n-14w. It was drilling at 1,530 ft.

In White County New Penn Development Co.'s No. 1 Williams, 165 ft. from south and 530 ft. from east lines of NW¼ Section 28-3s-9e, location.

In Shelby County Max Pray and others' No. 1 Russell estate, extreme NE cor. NE NW Section 18-10n-6e, drilling at 1,350 ft.

OHIO FIELDS

MOUNT VERNON, Ohio, Jan. 8.—Knox County yielded a 12,000,000-cu. ft. gas well from Clinton sand, the largest gas well drilled in Ohio in several years. The test was drilled by Brooks Johnson and others, 12 miles east of here in Butler Township, on Devilla Bricker tract in Section 6. Clinton sand was topped at 2,792 ft., and drilling was stopped at 11 ft. in the sand.

There is no change in the deep tests drilling in the central and northeastern Ohio areas; H. E. Perkins in Howard Township, Knox County, is shut down at 4,400 ft. In Medina County McCrea and others in Spencer Township are fishing for tools at 5,074 ft.

Eight gas wells, two oil wells, and four dry holes were completed last week in the fields covered by this report.

In Knox County, Howard Township, Perkins & Upham's No. 1 J. G. Arnold, Lot 15, gaged 900,000 cu. ft. of gas from second Clinton sand at 2,694-2,709 ft.

In Lorain County, Penfield Township, William Dempsey's No. 2 Truman C. Denham, Lot 43, made 8 bbl. of oil the first 24 hours after a shot in Berea sand at 188-242 ft. It also has a good gas showing.

In Licking County, in the Newark pool, three gas wells and two dry holes were reported. In Newark Township, National Drilling Co.'s No. 1 William C. Hall, has an open flow of 1,000,000 cu. ft. of gas from Clinton sand at 2,305-34 ft. In Mary Ann Township C. A. Davis and others' No. 1 Elmer Lothes, Section 6, gaged 750,000 cu. ft. of gas 15 ft. in the sand, with the top of the Clinton at 2,715 ft. In Section 25, Hoover Brothers' No. 2 George Pound made 270,000 cu. ft., open flow, from Clinton sand at 2,587-2,622 ft. Kinsey & Shridler's No. 1 Alta Fawcett, Section 18, had a small showing of gas in the Clinton and was abandoned at 2,749 ft. In Section 24 Ohio Fuel Gas Co.'s No. 1 J. B. Hughes was dry, total depth 2,775 ft.

In Medina County, Chatham Township, Curtis & Eaken's No. 1 Blake Huffman, Lot 60, Tract 15, made 15 bbl. the first 48 hours after a shot in Berea at 536-92 ft.

In Morgan County, Marion Township, a well of W. S. Harrison, on the Flora Doan tract, Section 13, has an open flow of 600,000 cu. ft. of gas in the Brill sand at 920-22 ft.

In Noble County, Wayne Township, Jewell Co.'s No. 2 Muskingum Consolidated district, Section 12, was abandoned at 1,461 ft. after testing a small showing of oil and gas in the Berea.

In Stark County, Jackson Township, Ohio Fuel Gas Co.'s No. 2 Paul Rohr, Section 20, has an open flow of 240,000 cu. ft. of gas, Clinton at 4,161-77 ft.

In Washington County, Grandview Township, McCall Drilling Co.'s No. 4 C. A. Price, Section 15, made 100,000 cu. ft. of gas open flow from Injun sand at 1,676 ft. In Warren Township Ross and others' No. 2 E. D. Anderson, Section 35, was dry and abandoned at 800 ft.

Kansas Developments

By
DAL DALRYMPLE

Two-County Play Assured as Bornholdt Extensioner Flows

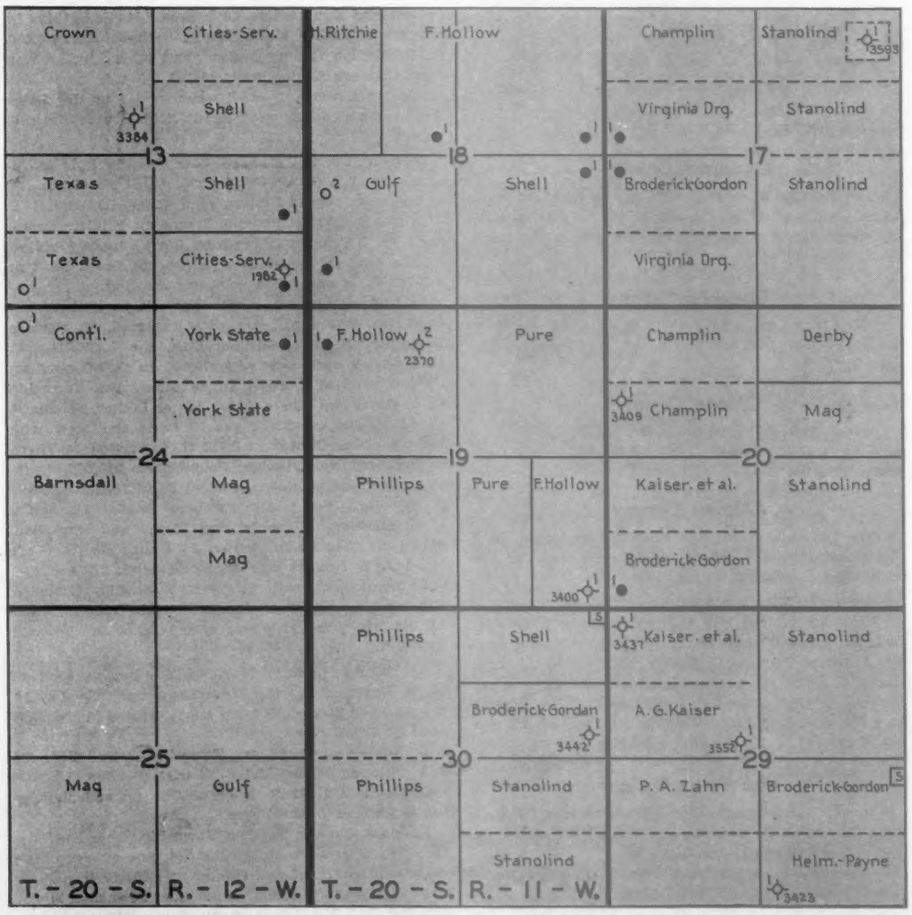
Another two-county drilling play was assured when Springrose Drilling Co. and Central Petroleum Co.'s No. 1 Swanson, C N½ NW NW Section 18-20-5w, discovery well 2½ miles north of the Bornholdt pool in McPherson County, Kansas, flowed 50 bbl. of oil an hour when drilled to 3,346 ft., some 42 ft. in chat. No water was showing with the oil. Although it found the pay in the waning days of 1939, it is classed as the first discovery of 1940 in Kansas.

The No. 1 Swanson is in western McPherson County, offsetting the Rice County line. The west offset location is in Rice County and is owned by Bradley Brothers and associates, who also own the northwest offset in Rice County. The north offset in McPherson County is owned by Republic Natural Gas Co. The new area, temporarily designated as the North Bornholdt pool, is expected eventually to be connected with the Bornholdt pool, which also straddles the McPherson-Rice county line.

Recognized limits of the Bornholdt pool were enlarged recently when the Kansas Nomenclature Committee decreed that the Hodge pool of Rice County be joined to Bornholdt, as a completion of an intermediate well at McBride's No. 1 Hodge, CSL SE NE Section 25-20-6w, for temporary potential of 710 bbl. from chat. Limits of the Bornholdt pool, as now described by the committee, include Sections 29, 30, 31 and 32-20s-5w, McPherson County, and E½ Section 25 and E½ Section 36-20-6w, Rice County.

Phillips Petroleum Co.'s No. 1 Petz, C S½ SE NE Section 7-20-11w, midway between the Ellinwood and West Ellinwood pools in Barton County, gave promise of joining those areas. Arbuckle lime was found at 3,302 ft., with saturation to 3,304 ft. Operators were preparing to test. The Petz well is about 1 mile north of the Clawson pool, shown on the accompanying map. A ½-mile northwestward extension of the Ellinwood pool was indicated at Schneider & Pulse's No. 1 Knop, C N½ NE SE Section 6-20-11w, about 1 mile north of the Petz well. It topped Arbuckle lime at 3,334 ft., had saturation to 3,338 ft., and the crew was due to drill in.

Increased development of the Bemis field and adjacent areas in Ellis and Rooks counties is expected to follow construction of a new pipe line serving the Bemis district, announced last week by Stanolind Pipe Line Co. The announcement that crude-oil requirements of Phillips Petroleum Co.'s refinery at Kansas City, Kan., will be increased 5,000 bbl. daily also brightened the Kansas outlook for 1940, as much of the oil for the refinery comes from Kansas fields.



Considerable drilling in 1940 is forecast for this area south of the town of Ellinwood in Barton County, and including the Hagen pool in Section 20, the Clawson pool in Sections 17 and 18, and the Marchand pool in Sections 18 and 19-20-11w and Sections 13 and 24-20-12w

Stafford County

Stanolind Oil & Gas Co.'s No. 4 Sims, N½ SE NE Section 11-24-11w, Zenith field, Stafford County, was completed in Misener sand at 3,709-89 ft., total depth, flowing 165 bbl. of oil in 4 hours through 1-in. choke. It made bomb potential of 6,188 bbl., with maximum allowable potential of 3,000 bbl. Casing pressure was 420 lb.

Same company's No. 1 Hullman, E½ SE NE Section 10-24-11w, flowed 169 bbl. of oil in 4 hours through 1-in. choke and was completed for maximum potential of 3,000 bbl. Production was from Misener sand at 3,718-96 ft., total depth. Tubing pressure was 183 lb.

Stanolind Oil & Gas Co.'s No. 8 Fuller, W½ NW SW Section 11-24-11w, topped Misener sand at 3,741 ft., was bottomed in sand at 3,803 ft., flowed 97 bbl. of oil in 4 hours and was completed for bomb potential of 1,308 bbl. daily.

New operations in Stafford County: Stanolind Oil & Gas Co.'s No. 9 Fuller, W½ SW SW Section 11-24-11w, and same company's No. 8 Martin, W½ NW NW Section 14-24-11w, were locations.

Estimated Daily Production

Estimated daily production for Kansas for the week ended January 5, and for the preceding week was as follows:

	Barrels	
	Jan. 5	Dec. 30
Oxford City	750	750
Burrton	9,400	10,150
Ritz-Canton	4,250	4,350
Graber	3,050	3,300
Hollow-Nikkel	1,800	1,900
Lerado	700	1,200
Voshell	1,600	1,650
Wellington	2,000	2,100
Ellsworth County:		
Lorraine	1,150	2,000
Other pools	1,060	2,125
Rice-Barton counties:		
Bloomer	3,500	4,800
Chase	4,300	4,700
Geneseo	4,200	3,900
Raymond	700	700
Silica	8,930	10,900
South Silica	2,700	3,000
Keesling	600	1,000
Wherry	3,300	4,500
Miscellaneous Rice	4,075	5,165
Miscellaneous Barton	10,455	10,815
Russell County	27,625	29,910
Sedgwick County	3,200	3,300
Ellis County:		
Bemis	6,450	7,150
Miscellaneous	4,910	4,230
Kingman County	810	920
Stafford County	5,500	5,525
Greenwood County	8,250	8,500
Eldorado	7,700	7,750
Other fields	33,435	32,310
Total Kansas	166,400	178,600

Barber County

Barbara Oil & Gas Co. completed a gas well in the Medicine Lodge field, Barber County, at its No. 4-B Root, C NW¼ Section 15-33-13w. Mississippi-lime pay was found at 4,582-86 ft., where it was shot, and yielded 2,000,000 cu. ft. of gas daily. The hole was bottomed at 4,945 ft.

Rice County

Skelly Oil Co.'s No. 7-B Volkland, C S½ S½ NW Section 5-18-10w, Stumps area, Rice County, found Arbuckle lime at 3,209-14 ft., total depth, was acidized and pumped 189 bbl. of oil in 11 hours. It was completed for maximum allowable potential of 3,000 bbl.

Continental Oil Co.'s No. 3 Poland, NW NW SE Section 30-18-7w, Geneseo pool, drilled Arbuckle lime at 3,145-53 ft., total depth 3,189 ft., pumped 56 bbl. of oil in 8 hours and made daily potential of 170 bbl.

Stanolind Oil & Gas Co.'s No. 3 Boxberger, E½ SW SW Section 14-14-14w, Gurney area, pumped 664 bbl.

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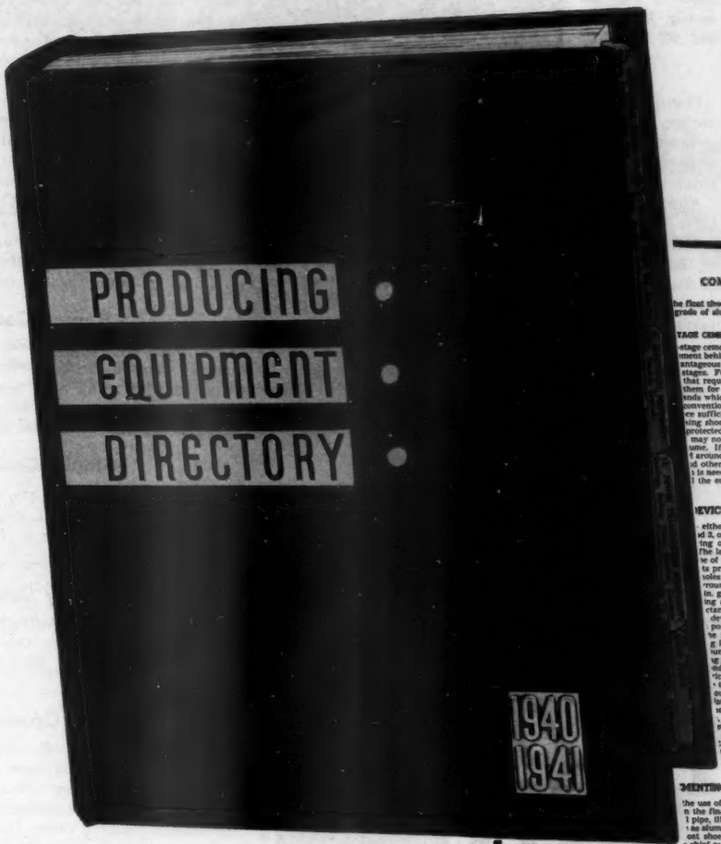

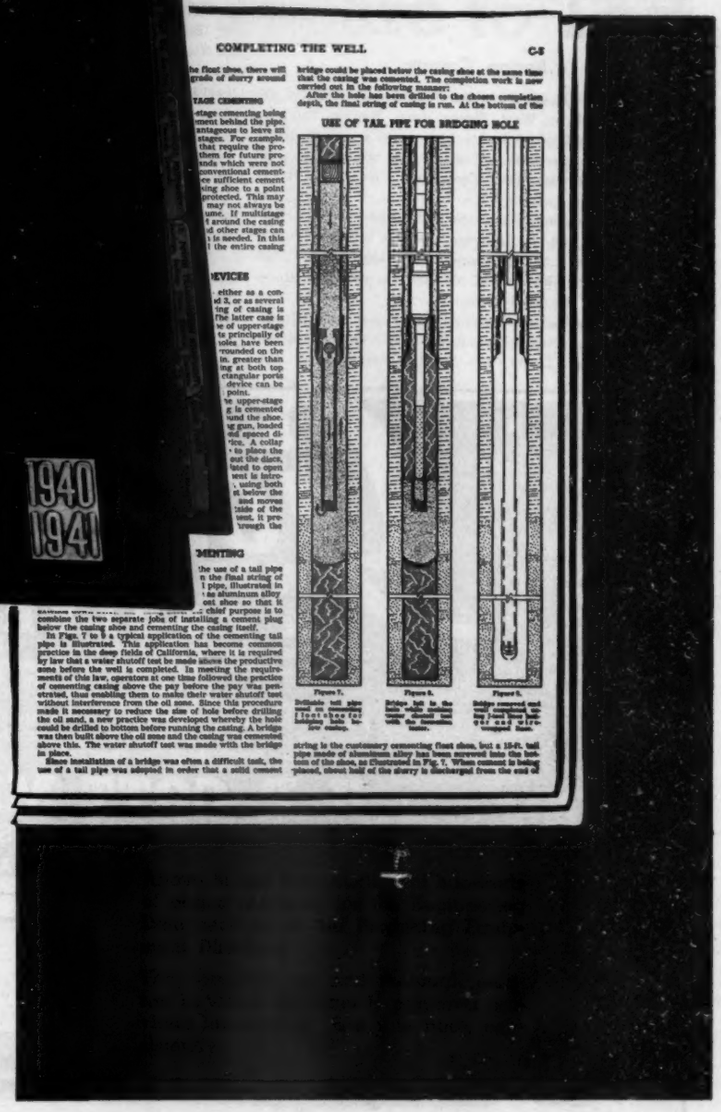
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of oil in 8 hours after acidizing with 8,000 gal. and made daily potential of 1,992 bbl. Lansing lime was found at 2,987-94 ft., 3,013-17 ft. and 3,058-63 ft., and the hole was bottomed at 3,064 ft.

El Dorado Refining Co.'s No. 4 Gossman, SE SE SW Section 5-21-7w, Wherry district, found conglomerate at 3,332-47 ft., total depth, pumped 122 bbl. of oil in 8 hours and made potential of 364 bbl. daily.

Gulf Oil Corp.'s No. 4-A Gossman, E½ NW NE Section 8-21-7w, based Mississippi lime at 3,402 ft., had a small showing of oil and water and was abandoned.

Lauck & Moncrief's No. 2 Berscheidt, S½ SW SW Section 18-20-10w, West Wenke pool, topped Arbuckle lime at 3,303 ft. and was dry and abandoned at 3,340 ft., total depth.

Barton County

Sinclair Prairie Oil Co.'s No. 1 Edwards, NE NE SE Section 18-16-11w, West Prusa area, Barton County, swabbed 249 bbl. of oil in 5½ hours and was completed for echometer potential rating of 1,372 bbl. Production was from Arbuckle lime found at 3,308-15 ft., total depth.

Duwe & Farris and others' No. 1-A Meggers, C E½ E½ SW Section 21-20-11w, Barton County wildcat, found Lansing lime at 3,091 ft., topped Arbuckle lime at 3,339 ft., had a slight showing of oil but was dry and abandoned at 3,352 ft., total depth.

New work in Barton County: Indian Territory Illuminating Oil Co.'s No. 1 Reiser, NE SE NW Section 23-20-11w, location; Texas Co.'s No. 1 Marchand, SW cor. Section 13-20-12w, location; Barnsdall Oil Co.'s No. 2 Rous, C S½ NE SW Section 28-16-11w, set surface casing; Republic Natural Gas Co.'s No. 3-B Bloomer, SW NE NW Section 14-17-11w, set surface casing.

McPherson County

Continental Oil Co.'s No. 10 Huxman, C E½ W½ NW Section 29-21-1w, Graber pool, McPherson County, was completed in Hunton lime at 3,266-3,300 ft., total depth. It pumped 115 bbl. of oil in 8 hours and made daily potential of 344 bbl.

First reports of new activity in McPherson County: L. W. Prunty and others' No. 1-B Jones, NW NW SW Section 32-21-1w, set casing and waiting on cement at 152 ft.; Bradley Brothers and others' No. 1 Mattson, C S½ SE SW Section 19-20-5w, location; Hammer & McLean Drilling Co.'s No. 1 Swenson, C S½ SW NE Section 9-18-4w, cellar.

Ellsworth County

Spencer & Yarnell's No. 4-B Patzner, C S½ N½ SW Section 31-17-10w, Ellsworth County sector of the Bloomer field, topped Arbuckle lime at 3,268 ft., was bottomed at 3,277 ft., pumped 11 bbl. of oil in 8 hours and was completed for 33 bbl. daily.

W. N. Bartlett's No. 1 Janssen, SE cor. Section 21-17-9w, wildcat in Ellsworth County, had Lansing lime at 2,859 ft., Arbuckle lime 3,310 ft., total depth 3,325 ft., and was dry and abandoned.

Stanolind Oil & Gas Co.'s No. 1 Schroeder, C E½ NE NE Section 28-16-10w, was a location.

Russell County

Skelly Oil Co.'s No. 6 Colliver, N½ SE SW Section 28-14-13w, Hall pool, Russell County, found Lansing lime at 2,877-2,919 ft., total depth, pumped 297 bbl. of oil in 8 hours, with no water, and made 24-hour potential of 891 bbl. of oil.

W. I. Southern, Inc.'s No. 4 Trapp, E½ W½ NE Section 29-15-13w, Trapp field, pumped 53 bbl. of oil in 8 hours and made daily potential of 158 bbl. Arbuckle lime was found at 3,332-39 ft., total depth.

Coralena Oil Co.'s No. 5 Dumler, NW cor. Section 36-15-14w, had Arbuckle lime at 3,326-31 ft., total depth, pumped and flowed 675 bbl. of oil in 8 hours and was completed for 24-hour potential of 2,024 bbl.

Stanolind Oil & Gas Co.'s No. 1-B Bond, C S½ SW SE Section 23-14-13w, was a location.

Harvey County

E. J. Shaffer's No. 2 Wilson, N½ NW NW Section 20-23-3w, Burrton field, Harvey County, flowed 116 bbl. of oil in 3 hours after acid treatment and made bomb potential of 688 bbl. daily. Mississippi-lime pay was found at 3,322-60 ft., total depth.

Butler County

Sinclair Prairie Oil Co.'s No. 10 Millheisler, N½ SW NE Section 4-26-5, El Dorado field, Butler County, penetrated Viola lime at 2,549-77 ft., total depth, and pumped 20 bbl. of oil in 24 hours.

Coffey County

Oko Oil Co.'s No. 25 Kelly, SW NE SW Section 14-23-13, Virgil area, Coffey County, found Mississippi-lime pay at 1,812-42 ft., total depth, and pumped 20 bbl. of oil daily.

New Operations

In Ellis County, Republic Natural Gas Co.'s No. 3-A Bemis, SW NW SW Section 4-12-17w, was building rotary rig; same company's No. 4-B Bemis, S½ NE NW Section 4-12-17w, was building rotary rig.

In Marion County, Union Oil Co. and others' No. 1 well, NW cor. Section 10-18-4, wildcat south of the Lost Springs pool, was a location; Harwood Oil Co.'s No. 6 Novak, NW NE NW Section 28-17-4, was a location.

In Johnson County, Gardner Oil Co.'s No. 1 McCann, NW NE SE Section 15-14-22, was drilling below 654 ft.

In Pratt County, Skelly Oil Co.'s No. 1-B Krehbiel, C S½ N½ SW Section 1-28-11w, was a location.

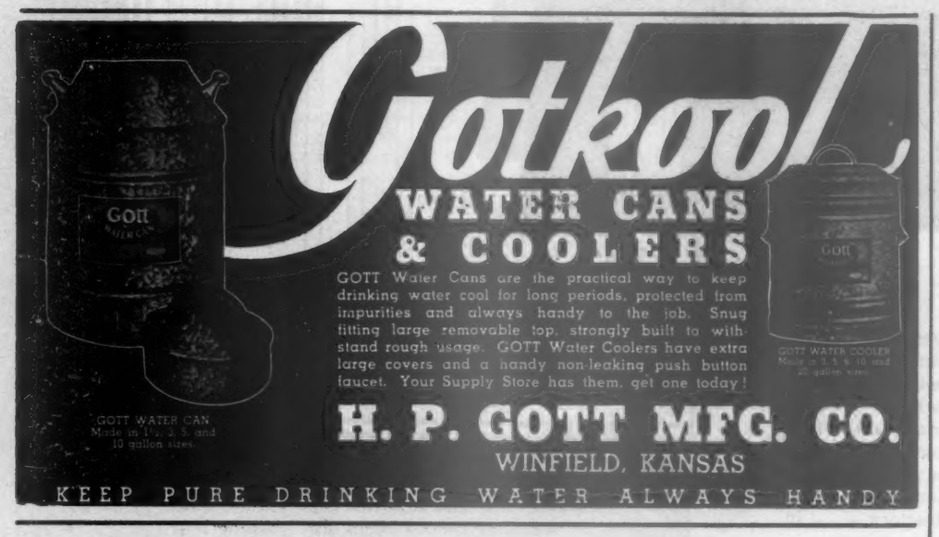
Forest City Basin Activity

ST. JOSEPH, Mo., Jan. 8.—Reports that free oil was showing in T. E. Baldwin and others' No. 1-A Johnson, NW NE NE Section 21-65-15w, Schuyler County, northern Missouri, featured Forest City basin activity at the week end. Basin operations generally were delayed and many wells were shut down because of severe winter weather.

The Schuyler County wildcat was reported bailing free oil from total depth of 1,100 ft. in lower Hunton lime. The Hunton zone was topped at 915 ft. It was estimated that about 1 gallon of oil was brought up each time the bailer was run. Operations were suspended until additional casing arrived. Pipe previously had been set at 726 ft. This is Baldwin's second test to be started on the Johnson farm, mechanical difficulties having forced abandonment of the first test at a shallow depth. The rig was skidded 40 yd. to the new location. Mississippi lime was based at 727 ft., with a showing of oil reported in the last 2 ft. of that formation.

Bob Miller and others' No. 1 Corrough, C SE SE Section 24-57-35w, east of St. Joseph, Buchanan County, lowered 8-in. casing to 1,983 ft., about 1 ft. in Viola lime, before shutting down because of trouble in the electric power plant. It was bottomed at 2,034 ft. It found only 297 ft. of Hunton lime, from 1,642 ft. to 1,939 ft., where Sylvan shale was topped. Operators had expected to find a thicker section of the Hunton.

Pawnee Royalty Co.'s No. 1 Boice, C NE NE Section 18-1n-16, discovery oil well near Falls City, Richardson County, Nebraska, was producing about 100 bbl. of oil daily, with 300 bbl. of water, after acidizing. The production included about 72 bbl. of oil flowing from the casing head, the remainder being pumped with the water. The oil is being trucked to the Searle refinery in Omaha. With below zero temperatures prevalent, other Nebraska and Iowa operations were at a standstill.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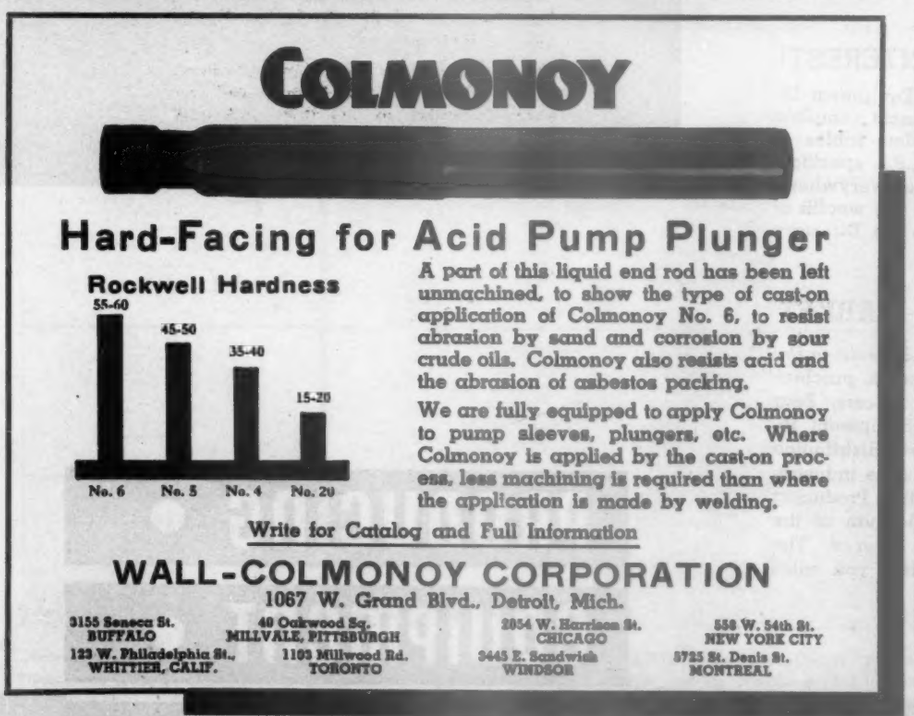
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Oklahoma Operations

By
DAL DALRYMPLE

Deep Caddo Wildcat Showing Oil in Wilcox, Prepare to Test

Caddo County held attention of Oklahoma oil operators this week with a wildcat giving some promise of opening a Wilcox-sand pool, a new zone paying off on Cement townsite and announcement of an Indian lease sale of Caddo, Cotton and Tillman county lands. Two large producers in the Cement field were completed the past week.

Sinclair Prairie Oil Co.'s No. 1 German, SW NW NW Section 1-6-13w, Caddo County wildcat southwest of Carnegie and about 15 miles northwest of the Cement field, topped Wilcox sand at 9,175 ft. and was bottomed at 9,195 ft., with oil stains and odors and saturation showing in cores. The sand section was hard and tight. An electrical survey was made and casing was to be run to about 9,170 ft., preparatory to testing. Loffland Brothers Drilling Co. has the contract.

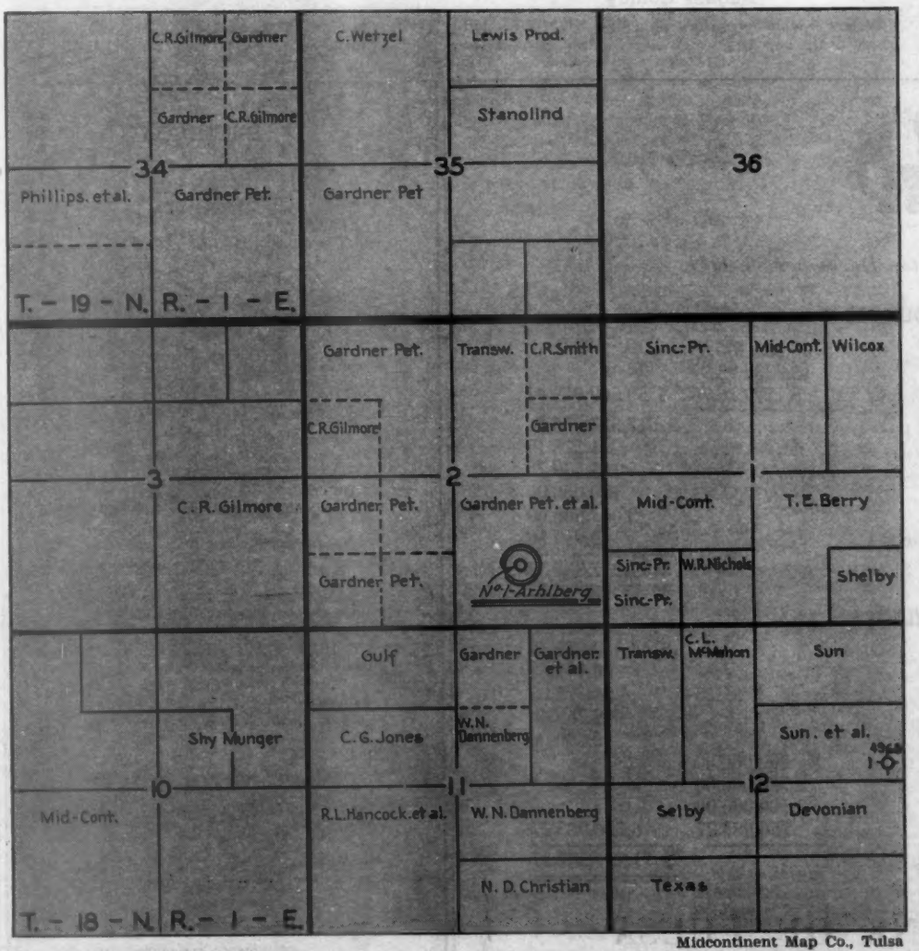
Johnson & Rollins and others found a new pay sand in their No. 1 Ackaman, on Block 3, west side of Cement townsite. When Rowe sand failed to produce, the hole was deepened to 4,786 ft. and casing set on bottom. It was perforated in the new sand at 4,320-47 ft. and swabbed at the rate of 8½ bbl. of oil an hour. Pump was to be installed. The play was extending along the west and northwest sides of Cement, with indications the entire townsite eventually will be drilled.

The lease sale will be held at the Kiowa Indian Agency in Anadarko January 25. The offering will include 61 tracts in Caddo County, 8 tracts in Cotton County and 6 tracts in Tillman County, totaling 9,824.48 acres, according to announcement of W. B. McCown, superintendent.

Opening of an Arbuckle-lime pool in Muskogee County was indicated at Cronk & Joyce's No. 3 Seibolt, CEL SW SW Section 1-14-17. Saturation was reported found in Arbuckle lime at 2,076-2,100 ft., total depth, with the section carrying a good showing of gas and high-gravity oil. Operations have been delayed by severe weather, as has been the case in other Oklahoma fields the past week, but operators planned to lower casing and test. It is an old well deepened from shallow-pay zones.

Caddo County

Ohio Oil Co.'s No. 11 Pau-Kune, NW SE SW Section 3-5-9w, Cement field, Caddo County, had Rowe sand at 3,407-42 ft., total depth, set 5½-in. pipe at 3,438 ft., perforated casing and made flowing potential of 2,420 bbl. of oil.



Midcontinent Map Co., Tulsa

Derrick has been erected at Gardner Petroleum Co.'s No. 1 Arhlberg-Wetzel, Section 2-18-1e, wildcat northwest of the Ramsey pool, Payne County, and work was due to start when weather permits

Magnolia Petroleum Co.'s No. 7 Hedlund, SE NW NE Section 11-5-9w, an old well, was plugged back from 3,945 ft. to 3,245 ft., reperforated casing at 3,100-3,240 ft. and was recompleted for 20 bbl. of oil daily, pumping.

Burwell's No. 1 Wagner, NE NW SW Section 12-5-9w, an old well, was cleaned out and deepened from 3,502 ft. to 3,506 ft., was shut down 7 days and then pumped 125 bbl. of oil in 19 hours, with 3 to 4 percent water. It was recompleted, pumping 40 bbl. of oil daily.

Ohio Oil Co.'s No. 8 Wagner, NW SW SW Section 12-5-9w, topped Noble-Olson sand at 3,194 ft., Rowe lime at 3,226 ft., total depth 3,442 ft., was perforated at 3,314-37 ft., and completed for swabbing potential of 1,000 bbl. of oil.

Darby Petroleum Corp.'s No. 1 Loose, NE SE SE Section 27-6-10w, produced 200,000 cu. ft. of gas daily and was completed at 4,490 ft., total depth.

Ohio Oil Co.'s No. 13 Pau-Kune, NW SW SE Section 3-5-9w, set 9-in. pipe at 311 ft. and was waiting on cement; Magnolia Petroleum Co.'s No. 14 McKenna, NE SE SE Section 11-5-9w, was building; Burwell's No. 2 Wagner, NE NW SW Section 12-5-9w, was a cellar.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ended January 5, and for the preceding week was as follows:

	Barrels	
	Jan. 5	Dec. 30
Allen	6,075	6,125
Billings	6,350	6,375
Burbank	7,150	7,175
South Burbank	8,475	8,675
Balance Osage	17,500	18,500
Blackwell district	3,725	3,775
Bristow-Slick	6,350	6,350
Chandler	1,425	1,475
Crescent	2,325	2,425
Cromwell	2,850	2,875
Cushing-Shamrock	9,675	9,650
Duncan	3,725	3,725
Edmond	4,550	4,600
Fish	3,775	3,775
Fitts	25,100	20,150
Jesse	2,225	2,275
Graham-Fox	2,225	2,250
Gray	750	750
Healdton	8,975	9,075
Hewitt	3,850	3,875
Keokuk	3,000	3,075
Konawa	1,175	1,225
Lucien	8,450	8,475
Moore	2,275	2,550
Oklahoma City	107,750	92,200
Olympic	2,550	2,625
Ramsey	5,225	5,250
Sasakwa	1,775	1,825
Sholem-Alechem	2,950	2,975
Seminole district:		
Bowlegs	7,075	7,100
Carr City	2,400	2,425
Dora	2,525	2,600
Earlsboro	4,350	4,375
South Earlsboro	550	575
East Earlsboro	2,175	2,225
Little River	6,650	6,675
East Little River	750	875
Maud	625	650
Mission	1,275	1,275
Seminole	7,250	7,325
East Seminole	1,100	1,150
Searight	2,150	2,275
Total Seminole	38,875	39,525
St. Louis-Pearson	34,250	35,000
Tatums	2,150	2,175
Tonkawa-Garber-Thomas	4,050	4,075
Wewoka	1,650	1,675
Yale-Jennings	3,500	3,550
Other pools	92,050	94,325
Total Oklahoma	438,750	424,400

Stephens County

Carter Oil Co.'s No. 1 Harley, C NE NE Section 24-2s-4w, old well in the Milroy pool, Stephens County, recently was plugged back from 8,157 ft. to 4,912 ft. and casing perforated at 4,845-75 ft., to give the area a new producing horizon. After acidizing, it flowed 1,902 bbl. of oil net in 18¾ hours. Gravity of the oil was 35.5°, sweet oil.

Skelly Oil Co.'s No. 25 Glass, SE SW SE Section 33-

1s-8w, an old well, was deepened from 2,222 ft. to 2,244 ft. in sand and pumped 40 bbl. of oil and 22 bbl. of water daily.

Carl Carter's No. 14 Harmon, NW NE NE Section 27-1s-5w, was completed as a 2-bbl. pumper in sand at 600-23 ft., total depth 700 ft. Tomlinson's No. 6 Fobb A, NE NE SE Section 12-2s-8w, had sand at 1,540 ft., total depth 1,568 ft., plugged back to 1,562 ft. and pumped 11 bbl. of oil daily. Wilkins' No. 1 White, NE NE NW Section 15-2s-5w, was dry and abandoned at 1,200 ft.

Pottawatomie County

Denver Producing & Refining Co.'s No. 2 Houck, C N½ NW NW Section 1-6-4, St. Louis district, Pottawatomie County, topped Viola lime at 3,980 ft., set 9-in. casing at 4,019 ft., total depth 4,125 ft., acidized and pumped 333 bbl. of oil in 24 hours.

Kerlyn Oil Co.'s No. 2 School Land, CWL SW NE Section 36-7-3e, had Viola lime at 4,228 ft. and set 7-in. pipe there, total depth 4,238 ft., acidized and pumped 300 bbl. of oil and 300 bbl. of water daily.

Same company's No. 2 Billington, SW SW SE Section 8-7-5, had Earlsboro sand at 3,182 ft. and was dry and abandoned at 3,196 ft.

Kerlyn Oil Co.'s No. 1 Askew, NW NE NE Section 17-7-5, found sand at 2,827 ft., total depth 2,852 ft., flowed 25 bbl. of oil and 10,500,000 cu. ft. of gas in 24 hours, and was completed for 10,000,000 cu. ft. of gas and spraying oil.

Indian Territory Illuminating Oil Co.'s No. 5 Weems, NW SW SW Section 21-7-5, topped Calvin sand at 2,796 ft., total depth 2,811 ft., and flowed 122 bbl. of oil in 24 hours.

Marks, Inc.'s No. 1 Vineyard, C SW NW Section 14-7-3e, Vineyard pool sector of the St. Louis district, had Hunton lime at 4,272 ft. and was bottomed at 4,370 ft. It was acidized and flowed 829 bbl. of oil in 24 hours, cutting 30 per cent. On potential test, it flowed 399 bbl. of oil, with 60 bbl. of water, through tubing choke. Gravity of the oil was 32°. Shut-in pressure was 640 lb.

Alma Oil Co.'s No. 4 Johnson, NW SE SW Section 19-6-5, Gray pool, found Earlsboro sand at 2,862-71 ft., total depth 2,897 ft., and had a hole full of water. It was plugged back and shot at 2,842-70 ft., flowed 475 bbl. of oil the first 22 hours, then flowed 378 bbl. daily.

New work in Pottawatomie County: Moday's No. 1 O'Connor, NW SE SE Section 25-6-4, spudded; Alma Oil Co.'s No. 5 Johnson, NE SW SW Section 19-6-5, drilling below 1,128 ft.; Howard Berkey's No. 1-A Burke, C NW NE Section 16-7-4, location; Magnolia Petroleum Co.'s No. 5 Fyke G, SE NW NE Section 29-7-5, building rig; Alma Oil Co.'s No. 1 Keyes, NE NE SE Section 6-9-5, cellar and pits; Dunnett's No. 1 Rodgers, NE SE SW Section 31-11-4, rig.

C. Neveille and others' No. 1 Cowan, SE SE NE Section 35-10-4, was completed for 200 bbl. of oil daily at total depth of 4,591 ft.

Pontotoc County

Hall's No. 1 Chism, SE SW SE Section 3-4-7, Pontotoc County, had sand at 1,054 ft., with only a slight showing of oil, and was dry and abandoned at 1,088 ft., total depth. Ada Oil Co.'s No. 1 Haney, NW NW NE Section 6-4-7, had a hole full of water in sand at 1,768-72 ft., total depth, and was abandoned.

A. Michaelson's No. 1 Lord, NW NW NW Section 3-1n-7e, Jesse area, was completed for 10 bbl. of oil daily at 1,876 ft., total depth. Skelly Oil Co.'s No. 1 Garrett, NW NW NE Section 3-1n-7, was bottomed at 1,828 ft. and produced 2,800,000 cu. ft. of gas daily.

Davis' No. 1 Chandler, SW SE NW Section 35-5-7, was drilling below 100 ft.; W. A. Delaney's No. 3 Shipley, SE NW SW Section 21-5-8, was rigging up rotary.

Seminole County

George Pace's No. 1 Maxine, C W½ SE NE Section 18-10-6, North Searight area, Seminole County, topped Wilcox sand at 4,588 ft., and at 4,606 ft. and swabbed 50 bbl. of oil in 24 hours. It was shot at 4,600-06 ft., total depth 4,607 ft., and pumped 30 bbl. of oil and 1 bbl. of water in 24 hours.

New operations in Seminole County: Vierson's No. 1 Swan, NW SE NW Section 28-6-6, drilling below 1,255 ft.; Martin's No. 1 Earls, NE SE NW Section 33-9-6, had Calvin sand at 2,553-75 ft., set 7-in. pipe on top of sand and was rigging up standard toools; McIntyre's No. 5 Johnson, NE SW NE Section 10-10-8, rigging up machine.

Hughes County

Rogers & Manahan's No. 1 Stand, SE NE NW Section 23-6-8, in the new Hughes County area recently opened by Stanley Rogers, was completed for 16 bbl. of oil daily at total depth of 2,676 ft.

Pittsburg County

J. C. Weible's No. 2-A Smith, NW SW SE Section 32-9-16, Pittsburg County, produced 200,000 cu. ft. of gas daily and was completed at total depth of 1,416 ft.

LeFlore County

LeFlore Gas & Oil Co.'s No. 3 Mosley, C N½ SW Section 9-8-25, LeFlore County, had broken sand at 2,407-45 ft. and was dry and abandoned at 2,448 ft., total depth.

Same company's No. 4 McCallip, C SE SE Section 5-8-25, had spudded.

Lincoln County

Wilcox Oil & Gas Co.'s No. 2 Evans B, NW NE NW Section 21-14-6, Sac and Fox pool, Lincoln County, topped Prue sand at 3,034 ft., set 6-in. casing at 3,036 ft., total depth 3,136 ft., was shot and flowed 84 bbl. of oil in 24 hours. Same company's No. 4 Furry, NW NW NE Section 21-14-6, recently was completed for 54 bbl. of oil daily at total depth of 3,091 ft.

Mid-Continent Petroleum Corp.'s No. 2 School Land, C SE NE Section 16-13-6, had Hunton lime at 4,051 ft., total depth 4,084 ft., was acidized and produced 17,750,000 cu. ft. of gas daily.

New activity in Lincoln County: Wilcox Oil & Gas Co.'s No. 7 School Land, NW SW SE Section 16-14-6, rigging up rotary; same company's No. 3 State A, SW SE SW Section 16-14-6, location; Tiger Mountain Oil Co.'s No. 1 Groover, NE SE NW Section 5-14-3, set 12-in. pipe at 82 ft., waiting on cement.

Tulsa-Wagoner Counties

Day-Dew-Colpitt's No. 1 Linehan, NW SE NE Section 5-19-14, Tulsa County, was bottomed at 915 ft. and produced 100,000 cu. ft. of gas daily.

Trinity Oil Co.'s No. 1-A Herd, C W½ NE Section 26-18-14, recently was dry and abandoned at total depth of 1,338 ft.

In McIntosh County W. B. Pine's No. 1 fee, NE SW NE Section 14-11-16, had broken limy sand at 2,317-2,525 ft., total depth, and was dry and abandoned.

Statement of Condition December 30, 1939

RESOURCES

Cash and Due from Banks	$ 29,726,466.69	
U. S. Government Securities	15,723,895.97	
Other Bonds and Warrants	5,119,616.76	$ 50,569,979.42
Loans and Discounts		17,322,335.56
Overdrafts		1,228.19
Income Receivable Accrued		125,539.70
Stock in Federal Reserve Bank		180,000.00
Bank Premises		3,067,500.00
Customers' Liability under Acceptances		10,999.50
TOTAL		$ 71,277,582.37

LIABILITIES

Deposits		$ 64,433,955.15
Acceptances Executed		10,999.50
Income Collected Not Earned		54,375.05
Reserve for Interest, Taxes, Etc.		9,269.40
Reserve for Preferred Dividends		12,000.00
Capital—Preferred	$ 800,000.00	
Capital—Common	2,700,000.00	
Surplus	2,500,000.00	
Undivided Profits	756,983.27	6,756,983.27
TOTAL		$ 71,277,582.37

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In Wagoner County, W. A. Schmidt's No. 3 McKinley Porter, NW SE SW Section 23-17-15, was completed at 1,040 ft., total depth, and produced 100 bbl. of oil daily, initially.

In Osage County Burke-Greis Oil Co.'s No. 2 Osage, SE SE NE Section 9-28-11, was completed for 10 bbl. of oil daily at 983 ft., total depth.

New work in Osage County: Olson Oil Co.'s No. 1 Osage, SW SW NW Section 24-26-4, was drilling below 870 ft.; Magnolia Petroleum Co.'s No. 3 Batts, SW SE SW Section 14-26-6, was a location.

Okmulgee-Muskogee Counties

J. H. Rebold's No. 4 Brooks, C SW NE Section 6-15-13, Okmulgee County, was completed for 700,000 cu. ft. of gas at 880 ft., total depth.

Three recent oil-well completions in Okmulgee County: J. E. Dow's No. 12 Gibson, NE NW SW Section 13-14-14, total depth 1,086 ft., pumped 10 bbl. of oil daily; Elm Oil Co.'s No. 15 Hutchins, NW NE SW Section 13-14-14, twin, total depth 1,085 ft., pumped 10 bbl. of oil daily; J. Stegner's No. 5-A Colbert, CEL SW SW Section 14-14-14, twin, total depth 1,088 ft., pumped 5 bbl. of oil daily.

In Muskogee County Joe R. Wright's No. 1 Seibold, SW SE NE Section 26-15-17, was completed for 750,000 cu. ft. of gas at total depth of 1,175 ft.

Creek County

Lebow's No. 1-A Vance, C NW NE Section 7-18-7, an old Creek County well, was deepened from 2,474 ft. to lime at 2,525-53 ft., total depth, acidized and pumped 25 bbl. of oil and 175 bbl. of water daily.

Stekoll's No. 1 Gouge, SE SW SW Section 32-18-10, had a hole full of water in Wilcox sand at 3,105-33 ft., total depth; plugged back and shot in lime at 1,718-40 ft. and Prue sand at 1,810-36 ft., and pumped 6 bbl. of oil daily.

McIntyre's No. 1 Turnbull, SE NW NE Section 17-14-8, had second Wilcox sand at 3,787-92 ft., total depth, plugged back and perforated without success and was dry and abandoned. Tibbens' No. 2 Wilson, NE NE SW Section 18-14-9, had a hole full of water and was abandoned in Wilcox sand at 3,784-3,803 ft., total depth. Walling's No. 1 Abraham, SE SE SE Section 22-18-7, had a hole full of water and was abandoned in sand at 587-600 ft., total depth. Worley and others' No. 3 fee, NW SW SE Section 34-14-10, Dunn area, was dry and abandoned at 3,330 ft., total depth.

Big Four Petroleum Co.'s No. 4 Copeland, SW SW NW Section 24-19-7, was shut down at 1,055 ft. Oklahoma Gasoline Plants' No. 1 Jones, NW SW NE Section 26-18-7, was drilling below 350 ft.

Tillman County

Indian Territory Illuminating Oil Co.'s No. 1 Hatler, C SW NE Section 32-2s-17w, old well in the Frederick area, Tillman County, was plugged back from 5,169 ft. to 3,420 ft., perforated at 2,995-3,011 ft., acidized and pumped 63 bbl. of oil and 34 bbl. of water, accumulated. It pumps 26 bbl. of oil in 4 hours and pumps off every other day.

In Grady County Alma Oil Co.'s No. 6 Pettit, SW SW SE Section 11-4-8w, was dry and abandoned at 3,985 ft., total depth.

Jackson County

Navajo Oil Co.'s No. 5 Hensley, NW SE NW Section 10-1n-20w, Altus field, Jackson County, set 7-in. casing at 1,400 ft., total depth 1,541 ft., flowed 50 bbl. of oil in 12 hours and was estimated good for 70 bbl. of oil daily.

In Beckham County Northern's No. 1 Thomas, NE NE SE Section 26-8-22w, was dry and abandoned at 1,501 ft., total depth.

Comanche County

A tabulation of recent completions in the Lawton area, Comanche County, included the following: Oil wells—Garvin's No. 2 Garvin estate, SW SE SW Section 25-2n-11w, total depth 245 ft., pumped 3 bbl.; same operator's No. 4 estate, SW SE SW Section 25-2n-11w, pumped 3½ bbl.; Elmer Carter's No. 2 Johnson, NE SE SW Section 26-2n-11w, total depth 230 ft., pumped 3 bbl.; same operator's No. 3 Johnson, NE SE SW Section 26-2n-11w, total depth 237 ft., pumped 5 bbl.; Creel's No. 2 Johnson, SE NE SW Section 26-2n-11w, total depth 252 ft., pumped 1½ bbl. of oil, with 100,000 cu. ft. of gas; Creel's No. 3 Johnson, SE NE SW Section 26-2n-11w, total depth 242 ft., pumped 5 bbl.; Creel's No. 4 Johnson, SE NE SW Section 26-2n-11w, total depth 249 ft., pumped 6 bbl.; McKee's No. 1-A Truitt, NE SW SE Section 26-2n-11w, total depth 213 ft., pumped 5 bbl.; Truitt's No. 16 fee, SW NW SE Section 26-2n-11w, total depth 210 ft., pumped 5 bbl.; Truitt's No. 17 fee, SW NW SE Section 26-2n-11w, total depth 217 ft., pumped 5 bbl.; Truitt's No. 18 fee, SW NW SE Section 26-2n-11w, total depth 223 ft., pumped 5 bbl.

Gas wells—Creel's No. 1 Johnson, SE NE SW Section 26-2n-11w, total depth 230 ft., 115,000 cu. ft. of gas; Creel's No. 5 Johnson, SE NE SW Section 26-2n-11w, total depth 404 ft., plugged back to 250 ft., 100,000 cu. ft.; Garvin's No. 3 Garvin estate, SW SE SW Section 25-2n-11w, total depth 244 ft., 100,000 cu. ft. of gas, abandoned.

Failures—E. P. Evans' No. 1 Maloney, SE NE SE Section 23-2n-11w, total depth 250 ft., dry and abandoned; Garvin's No. 1 estate, SE NE SW Section 25-2n-11w, total depth 241 ft., dry and abandoned; W. P. Palmer's No. 2 Warner, SW SW NE Section 26-2n-11w, total depth 404 ft., dry and abandoned; Stephens-McCarty's No. 1 Johnson, SE SE SW Section 26-2n-11w, total depth 237 ft., dry and abandoned; Truitt's No. 15 fee, NE SW SE Section 26-2n-11w, total depth 229 ft., dry and abandoned; Meilling's No. 10 fee, NE NE NW Section 35-2n-11w, total depth 407 ft., dry and abandoned.

Among the Wildcats

Continental Oil Co.'s No. 1 Proctor, C NW¼ Section 28-10-20w, wildcat in Washita County, was transferred to the "dry and abandoned" list the past week, although the operators previously had announced they would give it up as a bad job. The deepest hole in Oklahoma and second deepest test for oil ever drilled anywhere, it was bottomed at 14,582 ft. Failure to recover 1,200 ft. of drill pipe lost in the hole prevented drilling deeper. It was plugged back and perforated in upper sands without result. Perforations were at 11,160-92 ft., 10,936-54 ft., 10,896-10,920 ft., 10,760-95 ft. and 10,715-30 ft. A puff of gas was the best showing reported. Pontotoc zone was topped at 4,450 ft., Pennsylvanian formation at 6,577 ft.

United's No. 1-A Adams, C SW NW Section 29-12-15, McIntosh County wildcat, had lime at 1,850 ft. and was dry and abandoned at 2,401 ft.

(Continued on Page 92)

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Southwest Texas District

By
F. L. SINGLETON

Four Tests to the Tertiary Wilcox Started in District

CORPUS CHRISTI, Tex., Jan. 8. — The search for Sparta-Wilcox production in Southwest Texas gained momentum as locations for four deep tests were announced. The new activity makes a total of five deep operations planned for the district at the start of the year, and this type of play is expected to become more widespread within the next few months. This play was anticipated following the drilling of two deep tests in the Bruni and West Tuleta fields in Webb and Bee counties, both of which logged favorable showings in the Wilcox, but due to mechanical trouble no tests of the formation were made.

In the old Pettus field, northern Bee County, Union Producing Co. is moving in a large rig for No. 156 Ray, in the Thomas Hanson Survey. Approximately 13 miles southwest of the West Tuleta field, and in the Yougeen area, Jack Bunte and others staked location for No. 2 J. T. Earnest on a 40-acre tract in Bee County School Land Survey No. 103. The well is in the area where Felmont Oil Co.'s No. 1 Earnest, an abandoned hole, logged showings in the Hockley and Yegua formation at intervals from 4,700 to 5,700 ft. Contract depth is 9,500 ft. In the Uranga grant Hewitt & Dougherty are moving in material for No. 1 Weiss, scheduled to be drilled to a depth of 8,000 ft. It is reported, but not confirmed, that Mills Bennett Production Co. and Anderson-Prichard Oil Corp. will start another deep test in the West Tuleta field, following completion of the companies' No. 1 D. E. Robinson, which is producing an unestimated quantity of distillate and salt water from the Yegua formation at 4,467-72 ft. This well was drilled to 7,921 ft., and drill-stem testing in the Wilcox, topped at 7,531 ft., showed favorable indications.

In Webb County Sinclair Prairie Oil Co.'s No. 1 Callaghan Land & Cattle Co., a recent location in the B.S.&F. Survey No. 585, is reported to be a Wilcox test. In the Bruni field Tide Water Associated Oil Co.'s No. 7 Bruni is being tested through perforated drill pipe at 5,636-45 ft., and 5,621-31 ft. This well is testing at a plugged-back depth as the result of mechanical trouble caused by excessive gas pressures at a total depth of 8,959 ft.

Barnsdall Oil Co.'s No. 1-A Keeran, 1½ miles north of the Keeran field, Victoria County, flowed 11 bbl. of 31.4-gravity oil in 6 hours through a ⅝-in. bottom-hole choke and a ¼-in. choke on top. Tubing pressure was 290 lb. and casing pressure 2,250 lb. The well was drilled to 7,608 ft., and was completed through perforated casing at 5,550-52 ft. The area has been named the North Keeran field.

In the Victoria field Trinity Drillers, Inc.'s No. 1 Ben Moeller, 2,000 ft. southeast of production, flowed an estimated 75 bbl. of oil in 27 hours through a 9/64-in. choke. The well flowed by heads and the operators inserted three flow valves in the tubing and are attempting to make the well flow steadily by jetting with gas. The hole is bottomed at 2,558 ft., and the well was tested through perforated casing at 2,554-57 ft. W. S. Boyle's No. 1 Meyer, an outpost well which showed indications of opening production from a new sand, squeezed off perforation at 4,775-80 ft., and the well is being retested through perforated casing at 4,776-79 ft. At the close of the week the well was swabbing wash water with a slight show of oil and gas. The showing of the two wells has attracted much attention and preparations are being made to start several new tests.

In the Magnolia City field, Jim Wells County, V. J. Meyers was completing No. 2 Reynolds & Richardson, the third oil well in the field. Casing was perforated in the new pay at 5,697-5,703 ft., and the well was cleaning out through a ¼-in. choke, showing pipeline oil.

Magnolia Petroleum Co.'s No. 1 C. C. Hornsby, a north outpost in La Gloria field, Jim Wells County, is being completed as a distillate well at 6,085-91 ft. after a drill-stem test showed gas and distillate. Previous testing at 7,105-15 ft. recovered salt water.

Locations for two wildcats were reported in Jim Wells County. One mile southeast of Wade City, DeLange & Rowe staked location for No. 1 R. A. Wolters in the Casa Blanca grant, and 7 miles northwest of Premont, Henshaw Brothers and H. J. Mosser are moving in material for a 6,000-ft. test on the N. San Miguel lease in the S.K.&K. Survey, Section 219.

In Duval County Cox & Hamon's No. 1 Hoffman-Gorman, discovery well of the Tarancahuas field, jetted 100 bbl. of 21.3-gravity oil per day through open tubing. The hole is bottomed at 3,309 ft., and the well was completed by perforating casing opposite oil sand at 2,014-35 ft. In the Seven Sisters field Adams & Morris' No. 1 Chernosky is reported to have cored saturation in the Chernosky sand at 2,222 ft., total depth, and a drill-stem test was expected to be made. Sand with an oil odor was cored the previous week at 2,186-91 ft.

In Karnes County Clyde Echols and others continued to test No. 1 J. M. Newberry in an attempt to make the well flow steadily from the Pettus sand at 2,942-49 ft. The well is reported to have flowed from 4 to 5 bbl. of oil per hour for 6 hours through a ⅛-in.choke. Location is in the Carlos Martinez Survey, about 2 miles southwest of Green.

Hiawatha Oil & Gas Co.'s No. 8-B Smith, a deep test in the northern part of the Saxet field, Nueces County, is coring ahead below 10,230 ft. An electrical survey is reported to have shown several possible sands at intervals from 8,200-9,900 ft., and casing is expected to be cemented for a production test within the next several days.

Along the Balcones fault line district another oil well was indicated for the newly opened Elm Creek field, Guadalupe County. E. A. Weyel's No. 1 J. E. Thomas, a south offset to the discovery well is running casing for completion in a sandy-shale section at 739-43 ft., the total depth. The well ran low, compared to the discovery well, and the operator was preparing to abandon when oil showed up in the pits.

In Guadalupe County, southeast of the Salt Flat field, H. J. Hollifield's No. 1 D. M. Day, James Hinds Survey, cored hard, tight Edwards lime at 2,830-38 ft., and casing is expected to be cemented to test the chalk formation which showed saturation the previous week at 2,374-80 ft. Base of the Austin chalk was logged at 2,626 ft., top of Buda lime 2,660 ft., and top of the Georgetown lime at 2,757 ft.

SOUTHWEST TEXAS COMPLETIONS IN PROVEN FIELDS

Duval County

Cedro Hill field: Magnolia Petroleum Co.'s No. 17 Duval County Ranch Co., sand 1,430-36 ft., 45 bbl., jetting. Driscoll field: Continental Oil Co.'s No. 43-A Driscoll, perforated casing 3,345-57 ft., 335 bbl. of oil, 14 bbl. of water, jetting. Fitzsimmons field: Navarro Oil Co.'s No. 6 Mew, sand 4,244-52 ft., 68 bbl., 9/64-in. choke. Hoffman field: Magnolia Petroleum Co.'s No. 4 Weil, sand 2,813-23 ft., 45 bbl., pumping. Lundell field: Government Wells Oil Co.'s No. 41 Lundell, sand 1,541-54 ft., 139 bbl., ⅝-in. choke.

Frio County

Frio Town field: Pagenkopf & Jamieson's No. 2 Houston, 3,331 ft., dry and abandoned.

Jim Hogg-Brooks Counties

Kelsey field: Humble Oil & Refining Co.'s No. 39 McGill, sand 4,722-33 ft., 81 bbl., 7/64-in. choke. Humble Oil & Refining Co.'s No. 41 McGill, sand 4,718-33 ft., 86 bbl., 9/64-in. choke. Colorado field: Humble Oil & Refining Co.'s No. 2 King, sand 3,027-32 ft., 185 bbl., ⅞-in. choke. J. H. Meek's No. 3 Trevino, sand 3,045-60 ft., 60 bbl., ⅛-in. choke. Morgan-Gulf Corp.'s No. 1 Trevino, sand 3,040-55 ft., 75 bbl., 16 hours, ⅞-in. choke.

Guadalupe County

Darst Creek field: Cities Service Co.'s No. 4 Knoblock, 2,552 ft., 106 bbl. in 3 hours, pumping.

Hidalgo County

Samfordyce field: Phillips Petroleum Co.'s No. 1 Sullivan, 3,614 ft., dry and abandoned.

Jim Hogg County

H. W. F. field: V. G. Schimmel's No. 1 Martinez, 2,320 ft., dry and abandoned.

Jim Wells County

La Gloria field: Magnolia Petroleum Co.'s No. 1 W. C. Hornsby, perforated casing 7,066-80 ft., 21 bbl., ⅛-in. choke.

McMullen County

Callihan field: J. H. Lynd's No. 2 Worley, 1,051 ft., dry and abandoned.

Nueces County

Agua Dulce field: Union Producing Co.'s No. 7 Talbert, perforated casing 4,835-50 ft., gas well. Stratton field: Corpus Christi Corp.'s No. 9 Wardner, perforated casing 6,517-20 ft., gas well.

San Patricio County

Angelita field: Wellington Oil Co. of Delaware's No. 6 Welder, perforated casing 6,225-33 ft., 4 bbl. of oil, plus 90 per cent salt water, pumping. East White Point field: Sinclair Prairie Oil Co.'s No. 4 State, perforated casing 5,620-31 ft., 122 bbl., ¼-in. choke. Plymouth field: Plymouth Oil Co.'s No. 116-C Welder, perforated casing 5,509-24 ft., 105 bbl., ⅛-in. choke.

Starr County

Ricaby field: Moss, Owen and others' No. 6 Ricaby, sand 1,447-51 ft., 70 bbl., pumping.

Victoria County

Keeran field: Gulf Oil Corp.'s No. 17 Keeran, perforated casing 6,085-86 ft., 79 bbl., ⅛-in. choke.

Webb County

Adami field: Red Bank Oil Co.'s No. 2 Adami, sand 956-77 ft., 50 bbl., pumping. Volpe field: Magnolia Petroleum Co.'s No. 16 Volpe-Benavides, sand 2,451-57 ft., 45 bbl., pumping.

Zapata County

Blas Uribe field: Martinez & Condren's No. 1 Bruni, 938 ft., dry and abandoned. Murry & Martinez's No. 2 Bruni, 940 ft., dry and abandoned. Escobas field: Texas Co.'s No. 130 Measles, sand 1,220-48 ft., 16 bbl. fluid in 21 hours, 42 per cent salt water, pumping.

La.-Ark. Fields

(Continued from Page 81)

wildcat test, H. L. Hunt and Arkansas Fuel Oil Co.'s No. 1 Goodpine, 6 miles east of the Urania field, is waiting for cement to set after plugging back to 900 ft. from a total depth of 3,030 ft. It blew out several days ago and two joints of drill stem were dropped in

the hole. The well bridged, and in drilling out the bridge operators twisted off 2,000 ft. of drill stem. The test will shortly get under way again.

The deepest current wildcat in the section, Union Producing Co.'s No. 1-A Tensas unit, drilling on the north flank of the Monroe field in Morehouse Parish, is below 10,470 ft. Another deep test, Stanolind Oil & Gas Co.'s No. 131 Dillon, for which great possibilities were expected in the lower Marine formation at Pine Island, Caddo Parish, is pulling casing. Following a dry test with a show of gas at 6,963-7,060 ft., casing was again ripped, at 6,946-63 ft., and a drill-stem test showed four stands of mud in 40 minutes. The section was squeezed off and after attempting to pull casing cut at 6,000 ft., and failing operators cut it at 4,350 ft. and are salvaging much of the 7-in. string.

Another deep test is back in the picture this week following a long fishing job. Gulf Refining Co.'s No. 20 Hodges, in the Elm Grove field of Bossier Parish, has cleaned hole bottomed at 7,685 ft. and will resume drilling shortly.

NORTH LOUISIANA COMPLETIONS

Bellevue—Bossier Parish

Gary & Gibson's No. 3-A Connell, Section 15-19-11, pumping 8 bbl. oil and 70 bbl. salt water, 7-in. casing set at 376 ft., total depth 377 ft. Premier Investment Co.'s No. 7-B Kendrick, Section 22-19-11, 48 bbl. through a 12/64-in. choke, total depth 1,785 ft. Premier Investment Co.'s No. 7-C Kendrick, Section 22-18-11, pumping 3 bbl. oil with much salt water, total depth 875 ft.

Sligo—Bossier Parish

Union Producing Co.'s No. 1-A Herold, Section 29-17-11, 35,000,000 cu. ft. of gas, open flow, casing pressure 1,950 lb., tubing pressure 1,700 lb., through perforations at 5,070-5,115 ft., 5½-in. casing set at 5,313 ft., total depth 5,335 ft.

Caddo—Caddo Parish

Arkansas Fuel Oil Co.'s No. 7 Offenhauser, Section 1-20-16, 25 bbl., open tubing, total depth 1,340 ft., 7-in. casing 1,334 ft. Burnham Drilling Co.'s No. 3 Wilkinson, Section 33-22-16, 65 bbl., open tubing, total depth 2,457 ft. T. B. Donnell's No. 1 Surrey Oil Co., Section 12-20-16, pumping 15 bbl., total depth 2,276 ft. C. H. Lyons and others' No. 1 Bostwick, Section 13-22-16, dry and abandoned, total depth 2,714 ft. Magnolia Petroleum Co.'s No. 28 Dillon heirs, Section 24-21-15, pumping 10 bbl. fluid, 60 per cent salt water, acidized with 3,000 gal., total depth 1,677 ft. R.S.M. Oil Co.'s No. 1 Rudderdorf, Section 11-20-16, pumping 60 bbl., total depth 1,602 ft. Riggs Lester's No. 2-A Seybert, Section 17-20-15, dry and abandoned, total depth 1,640 ft. Texas Co.'s No. 1 Guy fee, Section 1-20-16, pumping 105 bbl., total depth 1,480 ft. Texas Co.'s No. 2 Guy & Richardson, Section 1-20-16, 50 bbl., acidized with 4,000 gal., total depth 1,491 ft. W. & W. Oil Co.'s No. 3 Arkansas Fuel Oil Co., Section 12-20-15, 75 bbl., acidized with 3,000 gal., total depth 1,521 ft.

Wildcat—Sabine Parish

M. Lanza's No. 1 Phares, 330 ft. from SE cor. NE SE Section 5-5-12, dry and abandoned, total depth 2,620 ft.

Monroe—Union Parish

Memphis Natural Gas Co.'s No. 1 Taunton, Section 11-21-3, 2,000,000 cu. ft. of gas, rock pressure 900 lb., total depth 2,204 ft. We Hope Gas & Oil Co.'s No. 8 Frost Lumber Ind., Section 23-22-3, 1,000,000 cu. ft. of gas, rock pressure 1,000 lb., total depth 2,220 ft. H. L. Woods' No. 2 Union Power, Section 29-21-3, 2,000,000 cu. ft. of gas, rock pressure 1,015 lb., total depth 2,212 ft.

Cotton Valley—Webster Parish

Hassie Hunt's No. 1 Holloway-Davis, 560 ft. north and 660 ft. west of C Section 23-21-10, 160 bbl., ⅜-in. choke, tubing pressure 200 lb., casing pressure 650 lb., total depth 5,900 ft. Hunt Oil Co.'s No. 4 Stewart, 480 ft. south and 835 ft. east of NW cor. SW Section 32-21-10, 512 bbl., ¼-in. choke, casing and tubing pressure 1,100 lb., D sand 8,482-8,510 ft., 7-in. casing 8,642 ft.

ARKANSAS COMPLETIONS

Atlanta—Columbia County

J. K. Mahoney's No. 1 Emma Riley, C NW NE Section 14-18-19, 185 bbl., 11/64-in. choke, tubing pressure 1,500 lb., casing pressure 1,700 lb., top Smackover 8,145 ft., top porous zone 8,169 ft., 6-in. casing set 8,224 ft., total depth 8,240 ft., perforations 8,177-83 ft.

Buckner—Columbia County

Standard Oil Co. of Louisiana's No. 4 Crone, C SW SE Section 8-16-22, 504 bbl., 20/64-in. choke, tubing pressure 165 lb., casing pressure 0, 6-in. casing 7,241 ft., total depth 7,254 ft.

Dorcheat—Columbia County

Atlantic Refining Co.'s No. 1-B Pine Woods Lumber Co., C SE NW Section 16-18-22, 144 bbl., ⅛-in. choke, tubing and casing pressure 2,250 lb., top Smackover 8,838 ft., top porous zone 8,858 ft., set 5½-in. casing, 8,888 ft., perforated 8,864-67 ft., total depth 8,890 ft.

Wildcat—Howard County

William James' No. 1 I. M. Brooks, 115 ft. west and 462 ft. north of SE cor. NW NW Section 2-8s-27w, junked and abandoned, total depth 350 ft.

Lewisville—Lafayette County

East Texas Refining Co.'s No. 1 E. P. Davis, Section 19-16-23, dry and abandoned, total depth 3,655 ft.

Rodessa—Miller County

W. C. Feazel's No. 1 Heflin, 455 ft. north and 350 ft. east of SW cor. Section 17-20-27, 30 bbl., open tubing, total depth 6,115 ft.

Champagnolle—Union County

E. G. Bradham's No. 4-A McKinney, SW SW Section 30-17-15, pumping 25 bbl., 3 per cent salt water, top sand 2,218 ft., total depth 2,250 ft. Oil Products, Inc.'s No. 1 Moore, C SE SE Section 1-17-14, temporarily abandoned at 3,066 ft.

EAST TEXAS BORDER COMPLETIONS

Rodessa—Marion County

Tippett Drilling Co.'s No. 2 Howard, 540 ft. from north line and 933 ft. southwest of No. 1, John Hanks Survey, 312 bbl., 16/64-in. choke, tubing pressure 150 lb., casing pressure 275 lb., making 10 per cent salt water, total depth 6,058 ft.

Gulf Coast Fields

(Continued from Page 60)

Co.'s No. 19-Bx Kirby Lumber Co., sand 8,082-8,168 ft., 413 bbl., ¼-in. choke.

Matagorda County

Markham field: Hamill and others' No. 5-B Meyers & Sisk, 3,729 ft., dry and abandoned. Red Bank Oil Co.'s No. 1 Smith, 1,270 ft., 35 bbl.

Tyler County

Spurger field: Republic Production Co.'s No. 28 fee, perforated casing 7,673-99 ft., 465 bbl., ¼-in. choke.

Wharton County

Withers field: McDannald Oil Co.'s No. 1 Norris, 5,567 ft., 105 bbl., ¼-in. choke. Texas Co.'s No. 44-B Pierce, 5,542 ft., 57 bbl., 5/64-in. choke. Texas Co.'s No. 67-C Pierce, 5,580 ft., dry and abandoned. Texas Co.'s No. 15-A Thompson, sand 5,535-41 ft., 118 bbl., ⅛ in. choke.

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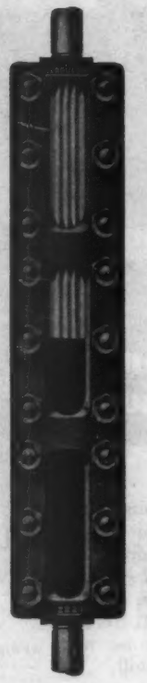

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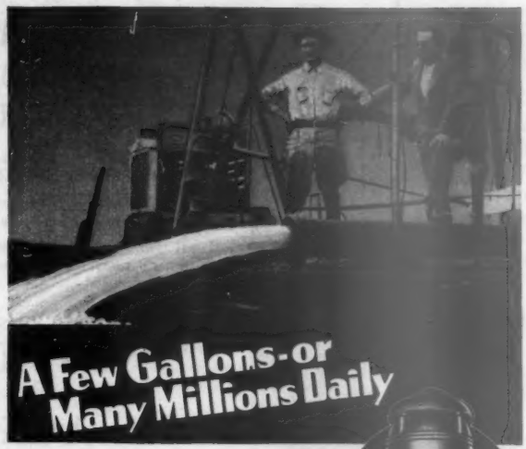

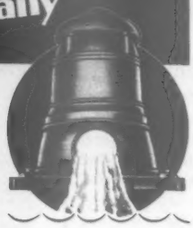

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LAYNE

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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ont., Jan. 6.—Crude and naphtha production from all Alberta fields in November totaled 712,179 bbl. compared with 796,147 bbl. in October. The decline of 83,968 bbl. was due to the seasonal reduction in Turner Valley crude allowables. With further reductions, the December production will show an even more marked decline.

Turner Valley limestone crude producers declined from 760,597 bbl. in October to 675,808 bbl. in November, and absorption-plant production from 26,420 to 23,886 bbl. Naphtha production from separators increased from 5,610 to 8,800 bbl. and shallow crude from 623 to 681 bbl. Red Coulee light crude was down from 1,076 to 849 bbl. Wainwright heavy crude increased from 707 to 834 bbl., light crude from the Moose dome well was up from 200 to 500 bbl., while production from the Del Bonita area dropped from 914 to 221 bbl. The Dina field in east central Alberta, unreported in October, produced 600 bbl. in November.

Home Oil Co.'s No. 2 Millarville, in North Turner Valley, continued the major crude producer, with 20,344 bbl. for the month. Other major producers were Royalite Oil Co.'s No. 42, 19,765 bbl.; Royalite's No. 36, 16,040 bbl.; Vulcan-Brown Petroleums' No. 1, 15,444 bbl.; Extension Royalties' No. 2, 15,202 bbl.; Royalite's No. 30, 14,876; Extension's No. 1, 14,817 bbl.; Consolidated Royalties' No. 1, 13,853 bbl.; Royalite's No. 37, 13,755 bbl. and Okalta Oils' No. 3, 13,015 bbl.

Absorption-plant production included Royalite's No. 1 plant, 8,819 bbl.; No. 2 plant, 5,975 bbl.; British American Oil Co., 5,569 bbl. and Gas & Oil Products, 3,423 bbl.

Royalite Oil Co. with 164,771 bbl. from 18 wells, including Northwest-Hudson's Bay's No. 1, was the major producing organization. Anglo-Canadian Oil Co. with 20 owned or affiliate wells produced 140,388 bbl.; and Brown Oil Corp. with 13 owned or affiliate wells produced 71,188 bbl. The 41 independent wells aggregated 299,461 bbl. for the month.

Tests in the Lime

In Section 8-18-2w5, in the southwest extension of the Turner Valley crude area, Northwest-Hudson's Bay Co.'s No. 2, LSD 9, finished in the lime at 7,586 ft., settled rapidly after showing a big flush production and has been given an allowable of 136 bbl. For a few days it was allowed 174 bbl.

In Section 5-19-2w5, West-Central Turner Valley, Royalite Oil Co.'s No. 45, LSD 14, finished at 7,486 ft., some 426 ft. in the lime, blew into production after treatment with 3,000 gal. of acid. It started with a flush of 65 bbl. an hour and looks like a major producer. In Section 17-18-2w5, Royalite's No. 46, LSD 2, got the lime at 7,554 ft. and is finishing around 8,000 ft.

In Section 29-18-2w5, Command Oils' No. 2, LSD 11, finished at 8,150 ft., some 452 ft. in the Madison, and is testing production. In Section 28-20-3w5, North Turner Valley, Home Oil Co.'s No. 4, LSD 9, is below 8,067 ft. after getting the Madison at 7,845 ft. Home's No. 3, LSD 1, Section 33-20-3w5, got the limestone at 7,688 ft. and is preparing to deepen. Both Home wells have logged somewhat higher than anticipated.

West Central Field

In Section 18-19-2w5, West Central Turner Valley, Davies Petroleums' No. 5, LSD 10, is in the Benton formation below 3,200 ft. Test is expected to finish in March, when the company will start two new wells a little farther west, and lower on the structure. The company is also planning to drill on holdings in North Turner Valley between the Home and Lowery acreage.

Calmont-Northwest's No. 1, LSD 3, Section 18-19-2w5, is in the Belly River formation below 1,896 ft.

In Section 13-19-3w5, Arrow's No. 1, LSD 16, is in the Benton formation below 5,417 ft.

In Section 8-19-2w5, South West Petroleum's No. 3, LSD 3, is below 5,216 ft.

In Section 7-19-2w5, Royalite Oil Co.'s No. 48, LSD 10, is rigging. Pacific Petroleums' No. 5, LSD 6, is rigging.

In Section 6-19-2w5, East Crest Oil Co.'s No. 5, LSD 9, is below 4,815 ft. Kamalta Oils' No. 1, LSD 1, is below 3,210 ft. and getting close to the Benton formation.

In Section 5-19-2w5, Vanpeg Royalties' No. 1, LSD 9, is in the Blairmore formation below 5,773 ft.

West Side Drilling

In Section 32-18-2w5, Royal Canadian Oil Co.'s No. 4, LSD 12, is in the Benton formation below 3,382 ft. Pacific Petroleums' No. 4, LSD 3, is in the Belly River formation below 872 ft.

In Section 31-18-2w5, Anglo-Canadian Oil Co.'s No. 7, LSD 9, is in the Kootenay formation below 7,780 ft. and getting close to the Madison limestone.

In Section 20-18-2w5, York Oils' No. 3, LSD 3, is below 3,532 ft. and getting close to the Benton formation. Test is logging much deeper than No. 1 which got the Benton at 2,180 ft.

In Section 17-18-2w5, Royalite Oil Co.'s No. 50, LSD 7, has derrick up.

In Section 8-18-2w5, Northwest-Hudson's Bay Co.'s No. 3, LSD 13, is in the Belly River formation below 1,413 ft. after setting 13⅜-in. casing at 841 ft.

North Turner Valley

In Section 15-20-3w5, North Turner Valley, Anglo-Phillips' No. 1, LSD 14, is below 4,315 ft. Royalite's No. 47, LSD 15, has derrick up.

In Section 27-20-3w5, Foothills Oil & Gas Co.'s No. 6, LSD 5, is below 644 ft.

In Section 34-20-3w5, Alberta Oil Incomes' No. 1, LSD 4, is in the Benton formation below 3,425 ft. No. 2, LSD 4, Section 4-21-3w5, is below 1,274 ft.

Steveville Field

In the Steveville field, east of Calgary, Standard of British Columbia's No. 1 Princess, LSD 13, Section 22-20-12w4, is in the lime below 4,033 ft.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location and county—	S.T.R.	Depth	Status—
Union Oil, No. 74 Callender, Dominguez, Los Angeles	29- 3-13	7,117	flow 246 b.d.
Union Oil, No. 13 Carson, Dominguez, Los Angeles	33- 3-13	4,467	sd. sh. drlg.
Shell Oil, No. 100 Reyes, Dominguez, Los Angeles	33- 3-13	8,280	P.B. 7,820
Stabler, W. W., No. 2 Dominguez, Dominguez, L. A.	32- 3-13	5,746	will deepen
Barnsdall Oil, No. 1 Santa Fe, Rosecrans, Los Angeles	20- 3-13	8,792	tested wet
Averill, George, No. 3 South, Rosecrans, Los Angeles	20- 3-13	8,405	cleaning out
Apex Pet., No. 1 Hatfield, Rosecrans, Los Angeles	20- 3-13	5,882	sd. sh. drlg.
Kelly & Sons, No. 1 McMillen, Rosecrans, Los Angeles	20- 3-13	7,693	O.S. drlg.
South. Calif. Pet., No. 1 Rowena, Rosecrans, L. A.	19- 3-13	6,988	sd. sh. drlg.
Union Oil, No. 36 Rosecrans, Rosecrans, Los Angeles	19- 3-13	5,571	sd. sh. drlg.
Basin Oil, No. 6 Potrero, Potrero, Los Angeles	34- 2-14	3,770	cmtd. 3,769
Basin Oil, No. 7 Potrero, Potrero, Los Angeles	34- 2-14	3,178	redrlg. 1,697
Tide Water A. O., No. 3 Porter, Aliso Canyon, L. A.	27- 3-16	3,660	sd. sh. drlg.
Tide Water A. O., No. 12 Porter, Aliso Canyon, L. A.	27- 3-16	7,195	hd. sd. drlg.
Tamas Oil, No. 1 Perkins, Newhall, Los Angeles	14- 3-16	3,862	idle
Consolidated Pet., No. 4 Needham, Newhall, L. A.	13- 3-16	4,099	sd. sh. drlg.
Barnsdall Oil, No. 8 R.S.F., Newhall, Los Angeles	27- 4-17	7,291	O.S. drlg.
General Uet., No. 6 Blinn, Wilmington, Los Angeles	35- 4-13	3,325	flow 65 b.d.
General Pet., No. 36 Harbor, Wilmington, Los Angeles	35- 4-13	1,674	sd. sh. drlg.
Edco Pet., No. 1 Harbor, Wilmington, Los Angeles	35- 4-13	3,315	sd. sh. drlg.
Gremac Oil, No. 3 Harbor, Wilmington, Los Angeles	4- 5-13	5,678	P.B. 3,625
Hancock Oil, No. 20-B Harbor, Wilmington, L. A.	35- 4-13	2,490	sd. sh. drlg.
Jackson Expl., No. 2 Workman, Wilmington, L. A.	35- 4-13	3,142	sd. sh. drlg.
North Wilmington Oil, No. 1 Meeker, Wilming., L. A.	32- 4-13	3,695	sd. sh. drlg.
Royalty Service, No. 7-B Nelson, Wilmington, L. A.	33- 4-13	5,756	rig to pump
Union Pacific R. R., No. 121, Wilmington, L. A.	3- 5-13	3,940	completing
Union Pacific R. R., No. 122 Wilmington, L. A.	3- 5-13	3,989	flow 1,205 b.d
Union Pacific R. R., No. 124, Wilmington, L. A.	4- 5-13	3,513	completing
Union Pacific R. R., No. 125, Wilmington, L. A.	4- 5-13	2,975	sd. sh. drlg.
Union Pacific R. R., No. 127, Wilmington, L. A.	3- 5-13	1,674	sd. sh. drlg.
Union Pacific R. R., No. 21-E, Wilmington, L. A.	3- 5-13	3,965	sd. sh. drlg.
Vulcan Oil, No. 1-W Harbor, Wilmington, Los Angeles	33- 4-13	5,724	pump 180 b.d.
Wilton Oil, No. 10 Harbor, Wilmington, Los Angeles	32- 4-13	3,695	flow 135 b.d.
West Whittier Oil, No. 1 Pellissier, Whittier, L. A.	17- 2-11	2,090	sd. sh. drlg.
Kern Oil, No. 31 Monterey, Montebello, Los Angeles	2- 2-12	7,740	completing
Kern Oil, No. 35 Monterey, Montebello, Los Angeles	2- 2-12	6,736	flow 485 b.d.
Union Oil, No. 1 Howard, Montebello, Los Angeles	2- 2-12	6,690	flow 575 b.d.
Union Oil, No. 9 Howard & Smith, Montebello, L. A.	11- 2-12	5,288	sd. sh. drlg.
Albertson Oil, No. 2 Schnakenberg, Montebello, L. A.	3- 2-12	7,707	completing
Bush Oil, No. 1 Newhouse, Montebello, Los Angeles	3- 2-12	7,713	tested wet
Bush Oil, No. 2 Zanetti, Montebello, Los Angeles	3- 2-12	7,246	sd. sh. drlg.
C. A. P. Oil, No. 1 Dutch, Montebello, Los Angeles	11- 2-12	7,657	milling
Crestline Oil, No. 1 Pedro, Montebello, Los Angeles	11- 2-12	7,093	sd. sh. drlg.
Getty-Pac. West., No. 1 Porter, Montebello, L. A.	10- 2-12	7,194	sd. sh. drlg.
Hathaway Oil, No. 3 Dore, Montebello, Los Angeles	3- 2-12	7,510	O.S. drlg.
Herley-Kelly, No. 3 Burke, Montebello, Los Angeles	2- 2-12	4,982	sd. sh. drlg.
Junior Oil, No. 1 Kay, Montebello, Los Angeles	11- 2-12	4,164	sd. sh. drlg.
Larson Drlg., No. 3 Van Deusen, Montebello, L. A.	11- 2-12	7,894	fish D.P.
Mabee Co., No. 37 Monterey, Montebello, Los Angeles	3- 2-12	7,702	O.S. drlg.
Marion Oil, No. 6 Cowan, Montebello, Los Angeles	1- 2-12	7,625	completing
McVicar & Rood, No. 2 Beech, Montebello, L. A.	11- 2-12	7,494	sd. sh. drlg.
Pueblo Oil, No. 2 Bird, Montebello, Los Angeles	11- 2-12	7,440	recmtd. 7,432
Shoreline Drlg., No. 1 Mont., Montebello, L. A.	11- 2-12	6,682	sd. sh. drlg.
Stagg Oil, No. 1 Brown, Montebello, Los Angeles	10- 2-12	4,471	sd. sh. drlg.
Star Pet., No. 1 Prescott, Montebello, Los Angeles	10- 2-12	7,297	sd. sh. drlg.
Star Pet., No. 1 Allen, Montebello, Los Angeles	11- 2-12	3,986	sd. sh. drlg.
Texas Co., No. 2 Wilcox, Montebello, Los Angeles	3- 2-12	7,650	sd. sh. drlg.
Texas Co., No. 3 Wilcox, Montebello, Los Angeles	3- 2-12	6,994	sd. sh. drlg.
Westmont Oil, No. 1 West, Montebello, Los Angeles	11- 2-12	4,765	sd. sh. drlg.
Winlock Oil, No. 1 Win, Montebello, Los Angeles	11- 2-12	7,490	sd. sh. drlg.
Wood-Callahan Oil, No. 2 Todd, Montebello, L. A.	2- 2-12	7,640	completing
Allied Pet., No. 24 Signal, Long Beach, Los Angeles	30- 4-12	4,795	sd. sh. drlg.
Atlantic Oil, No. 14 Signal, Long Beach, Los Angeles	19- 4-12	3,340	pump 145 b.d.
Caminol Co., No. 3-19 Dominguez, Long Beach, L. A.	11- 4-13	8,150	gr. sd. drlg.
Massey, J. P., No. 1 Associates, Long Beach, L. A.	29- 4-12	4,747	completing
Welco Oil, No. 1 Yorba, Richfield, Los Angeles	28- 3- 9	4,198	idle
Morgan, George, No. 1 Fricke, Yorka Linda, L. A.	21- 3- 9	1,875	sd. sh. drlg.
Master Pet., No. 1 Wright, East Coyote, Orange	30- 3- 9	5,277	deepening
Union Oil, No. 22 Hole, East Coyote, Orange	22- 3-10	5,388	completing
Standard Oil, No. 2-13 Coyote, East Coyote, Orange	22- 3-10	3,292	sd. sh. drlg.
Southwest Expl., No. 23 State, Huntington B., Orange	10- 6-11	2,261	sd. sh. drlg.
Orr, Sara, No. 1 Montgomery, Huntington B., Orange	36- 5-11	4,494	cmtd. 4,450
Continental Oil, No. 42 Bixby, Seal Beach, Orange	11- 5-12	4,566	sd. sh. drlg.
General Pet., No. 1 Was, Garden Grove, Orange	21- 5-10	5,190	gr. sd. drlg.
Thompson, M. N., No. 1 Smith, Costa Mesa, Orange	9- 6-10	2,226	sd. sh. drlg.

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location and county—	S.T.R.	Depth	Status—
Moore, E. H., No. 11 Sugar, Santa Maria Santa Barb.	29-10-34	4,655	pump 100 b. d.
Union Oil, No. 2-4 O'Donnell, Santa Maria, S. Barb.	29-10-34	2,685	sd. sh. drlg.
Union Oil, No. 2-5 O'Donnell, Santa Maria, S. Barb.	29-10-34	4,991	sd. sh. drlg.
Cole, F. E., No. 3 Paderewski, Santa Maria, S. Barb.	29-10-34	2,984	sd. sh. drlg.
Hearte, O. K., No. 1 Core, Cuyama, Santa Barbara	11- 9-25	2,900	redrlg. 2,160
Shell Oil, No. 1 Barrett, San Marcos, Santa Barbara	13- 6-30	1,956	dry; abd.
General Pet., No. 5 More, Goleta, Santa Barbara	15- 4-28	4,694	gr. sd. drlg.
Coronet Oil, No. 4 Crown, Ojai, Ventura	17- 4-21	980	sd. sh. drlg.
Savage Oil, No. 8 Calumet, Shiells Canyon, Ventura	3- 3-19	3,090	sd. sh. drlg.
Texas Co., No. 138 Shiells, Shiells Canyon, Ventura	4- 3-19	2,088	sd. sh. drlg.
Shaffer & Lehndorfer, No. 1 S. &. L., Simi, Ventura	30- 3-19	640	idle
Renard Oil, No. 1, Sespe, Ventura	6- 4-19	1,112	idle
G. E. Dev., No. 7 General, Hopper Canyon, Ventura	13- 4-19	230	sd. sh. drlg.
Continental Oil, No. 13 Grubb, San Miguelito, Vent.	24- 3-24	6,264	sd. sh. drlg.
Continental Oil, No. 14 Grubb, San Miguelito, Vent.	24- 3-24	7,089	fish D.P.
C. C. M. Oil, No. 10-B Hobson, Rincon, Ventura	8- 3-24	4,521	O.S. drlg.
C. C. M. Oil, No. 26-B Hobson, Rincon, Ventura	16- 3-24	3,990	gr. sd. drlg.
C. C. M. Oil, No. 8-A Hobson, Rincon, Ventura	15- 3-24	5,250	sd. sh. drlg.
Tide Water A. O., No. 43 V.L.W., Ventura Ave., Vent.	23- 3-23	6,294	sd. sh. drlg.
Tide Water A. O., No. 45 V.L.W., Ventura Ave., Vent.	24- 3-23	2,562	sd. sh. drlg.
Tide Water A. O., No. 16 McGonigle, Vent. A., Vent.	23- 3-23	9,360	sd. sh. drlg.
Tide Water A. O., No. 120 Lloyd, Ventura A., Ventura	27- 3-23	7,945	sd. sh. drlg.
Tide Water A. O., No. 122 Lloyd, Ventura A., Ventura	23- 3-23	5,990	sd. sh. drlg.
Tide Water A. O., No. 20 Hartman, Ventura A., Vent.	22- 3-23	7,448	O.S. drlg.
Tide Water A. O., No. 21 Hartman, Ventura A., Vent.	22- 3-23	7,990	sd. sh. drlg.
Shell Oil, No. 105 Taylor, Ventura Ave., Ventura	29- 3-23	7,270	O.S. drlg.
Shell Oil, No. 109 Taylor, Ventura Ave., Ventura	21- 3-23	7,300	O.S. drlg.
Shell Oil, No. 35 Edison, Ventura Ave., Ventura	21- 3-23	7,097	sd. sh. drlg.
Cal. Alliance Pet., No. 2 Hartman, Ventura A., Vent.	22- 3-23	4,973	sd. sh. drlg.
Brit. Amer. Pet., No. 9 Hartman, Ventura A., Ventura	21- 3-23	7,940	flow 690 b. d.
Lloyd Corp., No. 3 Dabney, Ventura Ave., Ventura	23- 3-23	10,606	cleaning out
Lloyd Corp., No. 4 Dabney, Ventura Ave., Ventura	23- 3-23	10,144	deepening
Belridge Oil, No. 1-26, North Belridge, Kern	1-28-20	7,500	O.S. drlg.
Belridge Oil, No. 4-27, North Belridge, Kern	27-27-20	8,515	redrlg. 8,160
Belridge Oil, No. 1-22, North Belridge, Kern	28-27-20	6,282	sd. sh. drlg.
Tide Water A. O., No. 8-A Elliott, Lost Hills, Kern	11-26-20	1,440	sd. sh. drlg.
Burton, F. E., No. 1 Ashe, Mount Poso, Kern	2-27-27	2,801	hd. sd. drlg.
Davis Pet., No. 1 Kernco, Kern Front, Kern	13-28-27	1,288	P.B. 1,266
Dick & Dore Oil, No. 14 Kern, Kern River, Kern	34-28-28	400	sd. sh. drlg.
Dick & Dore Oil, No. 15 Kern, Kern River, Kern	34-28-28	511	sd. sh. drlg.
Dick & Dore Oil, No. 16 Kern, Kern River, Kern	34-28-28	298	sd. sh. drlg.
Helm & Smith, No. 17 Kern, Kern River, Kern	34-28-28	497	O.S. drlg.
Vedder, D. G., No. 11 Bell, Round Mountain, Kern	12-28-28	1,672	pump 140 b. d.
O'Reily, Frances, No. 2 Seale, Edison, Kern	5-30-29	4,070	pump water
Universal Consd. Oil, No. 2 Cattani, Arvin, Kern	15-31-29	3,394	sd. sh. drlg.
Western Gulf Oil, No. 44-B, KCL, Fruitvale, Kern	22-29-27	4,090	dry; abd.
Western Gulf Oil, No. 1 Ansolabehere, Fruitvale, Kern	27-29-27	2,916	will deepen
Union Oil, No. 4-23 Bowerbank, Goose Lake, Kern	25-29-24	12,144	cmtd. 11,662
Standard Oil, No. 1 Bryson, Delano Gas Field, Kern	28-24-23	2,161	sd. sh. drlg.
Trico Oil & Gas, No. 1 Bryson, Delano Gas Field, Kern	28-24-23	2,466	will deepen
Standard Oil, No. 3 Mushrush, Wasco, Kern	7-27-24	13,001	hd. sh. drlg.
Continental Oil, No. 5-8-A, KCL, Wasco, Kern	8-27-24	6,767	sd. sh. drlg.
Union Oil, No. 21-34, KCL, Rio Bravo, Kern	34-28-25	11,190	blew out
Union Oil, No. 52-34, KCL, Rio Bravo, Kern	34-28-25	11,130	sd. sh. drlg.
Superior Oil, No. 2 Fink, Rio Bravo, Kern	27-28-25	11,480	O.S. drlg.
Superior Oil, No. 2 Burner, Rio Bravo, Kern	27-28-25	11,176	sd. sh. drlg.
Standard Oil, No. 11-21, KCL, Greeley, Kern	18-29-26	11,510	flow 2,030 b.d.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
B. ck., bottom choke.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd., cored.
C.D., correct depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg., or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.S.T., drill-stem test.
D.P., drill pipe.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Recvd., recovered.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtrkd. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas, and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T. ck., top choke.
T.P., tubing pressure.
Tr., tract.
Tstd., tested.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.O.O., waiting on orders.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Standard Oil, No. 11-23, KCL, Greeley, Kern	18-29-26	2,584	sd. sh. drlg.
Standard Oil, No. 12-7, KCL, Greeley, Kern	7-29-26	7,764	sd. sh. drlg.
General Pet., No. 1 Farrand, Greeley, Kern	12-29-25	9,171	sd. sh. drlg.
Superior Oil, No. 1 Scofield, Greeley, Kern	12-29-25	3,092	sd. sh. drlg.
Shell Oil, No. 4-28-A, KCL, Ten Section, Kern	28-30-26	7,191	sd. sh. drlg.
Shell Oil, No. 74-25-A, KCL, Ten Section, Kern	25-30-25	6,675	sd. sh. drlg.
Tide Water-Continental, No. 3-7-E, KCL, Strand, Kern	7-30-26	7,292	sd. sh. drlg.
Shell-Ohio, No. 64-12-A, KCL, Strand, Kern	12-30-25	8,970	fish D.P.
Ohio Oil, No. 17-E, KCL, Canal, Kern	13-30-25	4,171	sd. sh. drlg.
Shell Oil, No. 21-13-A, KCL, Canal, Kern	13-30-25	9,005	sd. sh. drlg.
Richfield Oil, No. 72-33-B, KCL, Tupman, Kern	33-30-25	5,565	sd. sh. drlg.
Richfield Oil, No. 58-29-A, KCL, Tupman, Kern	29-30-25	8,280	sd. sh. drlg.
Richfield Oil, No. 76-29-A, KCL, Tupman, Kern	29-30-25	3,855	sd. sh. drlg.
Richfield Oil, No. 67-4-B, KCL, Cole's Levee, Kern	4-31-25	9,909	tested wet
Shell Oil, No. 81-17-B, KCL, Cole's Levee, Kern	17-31-25	7,292	sd. sh. drlg.
Standard Oil, No. 20-2, KCL, Cole's Levee, Kern	9-31-25	8,865	O.S. drlg.
Standard Oil, No. 20-3, KCL, Cole's Levee, Kern	9-31-25	9,934	O.S. drlg.
Ohio Oil, No. 6-F, KCL, Cole's Levee, Kern	11-31-25	9,390	sd. sh. drlg.
Ohio Oil, No. 7-F, KCL, Cole's Levee, Kern	3-31-25	6,965	sd. sh. drlg.
Tide Water A. O., No. 81, KCL, Cole's Levee, Kern	14-31-25	10,934	P.B. 10,775
Tide Water A. O., No. 65, KCL, Cole's Levee, Kern	13-31-25	9,595	sd. sh. drlg.
Tide Water A. O., No. 72, KCL, Cole's Levee, Kern	14-31-25	1,035	sd. sh. drlg.
Union Oil, No. 54-11, KCL, Cole's Levee, Kern	11-31-25	9,715	will deepen
Union Oil, No. 56-11, KCL, Cole's Levee, Kern	11-31-25	9,979	flow 626 b.d.
Richfield Oil, No. 1 Slough, South Ten Section, Kern	6-31-26	8,680	sd. sh. drlg.
Quality Oil, No. 4 Cypress, Midway-Sunset, Kern	22-32-23	1,944	completing
Merritt-Annex Oil, No. 1-34, M.A., Midway-Sun., Kern	34-32-24	2,160	sd. sh. drlg.
Oxford Oil, No. 7 Midway, Midway-Sunset, Kern	27-31-22	1,312	sd. sh. drlg.
General Pet., No. 1 B.V.A., Midway-Sunset, Kern	1-32-24	10,614	cleaning out
Signal Oil & Gas, No. 6 Kendon, Midway-Sunset, Kern	35-32-23	2,386	pump 220 b.d.
Shell Oil, No. 45-9 B.V.A., Midway-Sunset, Kern	9-32-25	9,890	redrlg. 9,240
National Oil, No. 34 Sunset, Midway-Sunset, Kern	35-32-23	2,316	dry; abd.
Ohio Oil, No. 43-3-B, KCL, Paloma, Kern	3-32-26	7,394	redrlg. 7,040
Western Gulf-Texas, No. 74-3-A, KCL, Paloma, Kern	3-32-26	10,140	sd. sh. drlg.
Richfield Oil, No. 81-36-B.V.A., Buena Vista L., Kern	36-31-25	10,990	sd. sh. drlg.
Shell Oil, No. 52-2-13-A, KCL, San Emidio, Kern	13-11-22	12,820	hd. sh. drlg.
Cal.-Stan Oil, No. 1 Weber, McKittrick, Kern	34-30-22	1,220	bailing
Burrhus, V. E., No. 1 Well, Elkhorn, Kern	21-32-22	1,198	sd. sh. drlg.
Jergins Trust, No. 1 Cheney, Panoche Creek, Fresno	29-14-13	4,660	sd. sh. drlg.
Standard Oil, No. 51-19-B fee, NE Coalinga, Fresno	19-19-16	8,102	fish D.P.
Standard Oil, No. 62-19-B fee, NE Coalinga, Fresno	19-19-16	7,100	sd. sh. drlg.
Standard Oil, No. 71-19-B fee, NE Coalinga, Fresno	19-19-16	....	bldg. rig
Union Oil, No. 57-18 Cook, NE Coalinga, Fresno	18-19-16	8,641	P.B. 8,199
Union Oil, No. 75-18 Cook, NE Coalinga, Fresno	18-19-16	7,971	O.S. drlg.
Union Oil, No. 88-18 Cook, NE Coalinga, Fresno	18-19-16	3,965	sd. sh. drlg.
Amerada Pet., No. 22-20 Ewing, NE Coalinga, Fresno	20-19-16	6,991	sd. sh. drlg.
Bandini Pet., No. 46-18-B, NE Coalinga, Fresno	18-19-16	7,680	sd. sh. drlg.
Superior Oil, No. 2 Husong, NE Coalinga, Fresno	18-19-16	8,000	sd. sh. drlg.
Bandini Pet., No. 51-30-B, Central Coalinga, Fresno	30-19-16	7,000	sd. sh. drlg.
Lytle, R. S., Agent, No. 5-7-F, SE Coalinga, Fresno	7-20-16	1,986	sd. sh. drlg.
Lytle, R. S., Agent, No. 22-7-F, SE Coalinga, Fresno	7-20-16	7,068	flow 1,895 b.d.
Lytle, R. S., Agent, No. 37-18-F, SE Coalinga, Fresno	18-20-16	5,944	sd. sh. drlg.
Univ. Consd. Oil, No. 81-24-C, SE Coalinga, Fresno	24-20-15	7,911	flow 4,235 b.d.
Texas Co., No. 4 Exeter fee, SE Coalinga, Fresno	6-20-16	8,002	O.S. drlg.
Standard Oil, No. 66-13-C fee, SE Coalinga, Fresno	13-20-15	7,198	sd. sh. drlg.
Standard Oil, No. 31-19-F fee, SE Coalinga, Fresno	19-20-16	7,946	hd. sd. drlg.
Standard Oil, No. 42-19-F fee, SE Coalinga, Fresno	19-20-16	4,862	sd. sh. drlg.
Superior Oil, No. 4 Huffman, Kettlem'n N Dome, Fres.	29-21-17	10,816	heavy gas
K. N. D. A., No. 27-18-J, Kettleman N Dome, Fresno	18-21-17	8,187	O.S. drlg.
K. N. D. A., No. 334-18-J, Kettleman N Dome, Fresno	18-21-17	6,991	sd. sh. drlg.
K. N. D. A., No. 25-16-Q, Kettleman N Dome, Fresno	16-22-18	6,040	sd. sh. drlg.
K. N. D. A., No. 36-26-Q, Kettleman N Dome, Kings	26-22-18	8,465	sd. sh. drlg.
K. N. D. A., No. 38-26-Q, Kettleman N Dome, Kings	26-22-18	1,981	sd. sh. drlg.
Standard Oil, No. 27-19-J, Kettleman N Dome, Fresno	19-21-17	10,636	fish D.P.
Standard Oil, No. 72-19-J, Kettleman N Dome, Fresno	19-21-17	10,903	gr. sh. drlg.
Standard Oil, No. 27-7-Q, Kettleman N Dome, Kings	7-22-18	9,855	flow 213 b.d.
Standard Oil, No. 54-7-Q, Kettleman N Dome, Kings	7-22-18	8,493	sd. sh. drlg.
Standard Oil, No. 63-7-Q, Kettleman N Dome, Kings	7-22-18	8,010	completing
Standard Oil, No. 32-17-Q, Kettleman N Dome, Kings	17-22-18	8,380	O.S. drlg.
Standard Oil, No. 61-17-Q, Kettleman N Dome, Kings	17-22-18	7,445	sd. sh. drlg.
Standard Oil, No. 72-17-Q, Kettleman N Dome, Kings	17-22-18	6,474	sd. sh. drlg.
Standard Oil, No. 76-17-Q, Kettleman N Dome, Kings	17-22-18	7,812	sd. sh. drlg.
Standard Oil, No. 83-17-Q, Kettleman N Dome, Kings	17-22-18	8,294	br. sh. drlg.
Standard Oil, No. 52-21-Q, Kettleman N Dome, Kings	21-22-18	8,195	completing
Standard Oil, No. 74-21-Q, Kettleman N Dome, Kings	21-22-18	8,080	gr. sh. drlg.
Standard Oil, No. 32-27-Q, Kettleman N Dome, Kings	27-22-18	7,800	recmtd.
Standard Oil, No. 83-27-Q, Kettleman N Dome, Kings	27-22-18	5,482	sd. sh. drlg.
Standard Oil, No. 63-35-Q, Kettleman N Dome, Kings	35-22-18	7,030	sd. sh. drlg.
Bristol Oil, No. 1 Ohio-Smith, Kettle. S Dome, Kings	35-24-19	8,054	rigging up
Shell Oil, No. 1 Cohn, Tulare Lake, Kings	4-22-19	3,652	sd. sh. drlg.
Priest Valley Pet., No. 1 Greve, Priest Val., Monterey	22-20-12	1,892	gr. sd. drlg.
Buttes Oilfields, No. 6, Buttes, Marysville, Sutter	1-15- 1	6,191	sd. sh. drlg.
Texas Co., No. 1 Holmes, Eureka, Humboldt	22- 3- 1	720	cmtd. 720

OKLAHOMA

Week Ended January 6

NORTHERN OKLAHOMA

Caddo County

Sinclair Prairie Oil Co.'s No. 1 Gorman, SW NW NW Sec. 1-16-13w. S. heavy oil; cd. 6,442-49 ft.; Wdfrd. 6,600 ft.; Hntn. 7,157 ft.; cd. 7,439-44 ft.; rec. S.O.; Simp. 8,810 ft.; S.S.O. 9,184 ft.; T.D. 9,166 ft.; S.D.O.

Cleveland County

Nels Burton's No. 1 Boggs, NE NE SE Sec. 16-9-2w. 2nd Wlx. 7,585 ft.; T.D. 7,646 ft.; P.B. 7,473 ft.; shot and acd.; P. 113 B.O.P.D.; 20 to 50% wtr.

Sinclair-Prairie's No. 1 Ward, SE SE SE Sec. 30-7-1. Hntn. 6,185 ft.; Vla. 6,408 ft.; open 30 min. at 6,800 ft.; rec. S. W.; P.B. to 6,782 ft.; T.D. 8,322 ft.; D.S.T. 8,236-8,322 ft.; rec. 1,300 ft. S. W.; P.B. 6,225 ft.; ripped 5,445-60 ft.; H.F.W.; S.D.

Comanche County

Mid Night Oil's No. 1 Howe, NW NW NE Sec. 30-2-13w. O.W.D.D.; O.T.D. 703 ft.; ran 2-in.; perf. and p. 1 B.W.P.D.

Creek County

A. S. Kaplan's No. 1 Anthis, NW NW SE Sec. 12-15-9. T.D. 2,996 ft.; H.F.W.; U.R.

Sunray Oil Co.'s No. 1 Harris, SW SW NE Sec. 30-14-7. T.D. 2,927 ft.; est. 370,000 cu. ft. gas.

Waite Drlg. Co.'s No. 1 Garrett, NE NE NE Sec. 25-14-10. Drlg. 2,240 ft.

Dewey County

Magnolia Pet. Co.'s No. 1 Fiekes, C SW SW Sec. 31-18-14w. Drlg. 5,760 ft.

Garfield County

Fain Drlg.'s No. 1 Schnakenburg, NE SE SW Sec. 31-21-4w. Drlg. 4,085 ft.

Garvin County

Duckworth & Jennings' No. 1 Bowie, NW NE SE Sec. 3-4-3. W.O.C. 60 ft.

Patay Oil Co.'s No. 1 James, NW NE NE Sec. 16-5-3. T.D. 3,623 ft.; F. 340 B.O. in 8¼ hrs.

Robinson & Midco's No. 1 Clay, SW SW NW Sec. 21-4-3. Simp. dense 3,145 ft.; cd. 3,277-94 ft.; rec. 13 ft. sdy. dolo.; T.D. 3,503 ft.; S.D.

Hughes County

Tom Nix's No. 1-A Warren, SE SE SE Sec. 4-6-8. S.S.O. 903-08 ft.; T.D. 930 ft.; rng. csg.

Thompson Bros.' No. 1 Meadors, NE NE NE Sec. 23-9-9. R.U.S.T. 3,230 ft.; drlg. plug.

Kay County

Malarnee Oil Co.'s No. 1 Harris, C SW NE Sec. 14-25-1. S.S.O. 3,583 ft.; T.D. 3,680 ft.; S.D., repairs.

Zephyr Drlg. Co.'s No. 1 High, NE NW NW Sec. 24-26-2w. Miss. 4,005 ft.; Vla. 4,116 ft.; Wlx. 4,127 ft.; cg. ahead.

Kingfisher County

Anderson-Prichard's No. 1 Geis, C NE SW Sec. 15-18-9w. Lytn. 6,450-6,510 ft.; T.D. 8,507 ft.; P.B. 7,365 ft.; ga. 3,000,000 cu. ft. gas; est. 12 bbl. dist.; S.I.

Ace Gutowsky's No. 1 Lankford, NE NE SE Sec. 34-17-6w. Miss. 7,014 ft.; Woodford 7,531 ft.; Msnr. 7,562 ft.; Wlx. 8,105 ft.; 2nd Wlx. 8,275 ft.; T.D. 8,330 ft.; S.D.O.

Kiowa County

Bollen-Dillard & Roberts' No. 1 Holcomb, NE NE SW Sec. 25-7-19w. Drlg. 1,470 ft.

Frank Dillard et al's No. 1 Hobbs, SE SE NW Sec. 35-6-17w. Gr. wsh. 555 ft.; S.D. 600 ft.; reprs.

C. J. Hagerling's No. 1 Kimray, SW SW NW Sec. 36-5-18w. T.D. 1,592 ft.; S.D.

Lincoln County

Youngblood et al's No. 1 Wright, NE NE SE Sec. 32-16-6. W.O. tools 3,950 ft.

Black Gold's No. 1 Locquchment, NE NE NE Sec. 28-14-6. T.D. 3,175 ft.; est. 5 B.O.P.D.; S.D.

Harper & Turner's No. 1 Shaeffer, NW NW NW Sec. 6-16-2. Wdfrd. 4,670 ft.; Hntn. 4,705 ft.; drlg. 4,745 ft.

McIntosh County

Phillips' No. 1 Blankenship, C SW NW Sec. 37-10-13. Drlg. 1,830 ft.

Muskogee County

R. Garrett's No. 1 Escoe, SW SW SE Sec. 16-13-17. S.D. 968 ft.

Noble County

Franks & Ellis' No. 1 Stranka, SW SW NW Sec. 35-24-1w. T.D. 1,660 ft.; S.D

Okfuskee County

Shell's No. 1 Epperson., NW NW SW Sec. 9-12-10. Msnr. 3,485 ft.; Vla. 3,604 ft.; 1st Wlx. 3,664 ft.; drlg. 3,690 ft.

Osage County

W. M. McKnab's No. 1 Osage, NW NE SW Sec. 15-29-8. Drlg. 630 ft.

Midco Oil Co.'s No. 1 Osage, NE NE SW Sec. 17-22-8. S.D. 2,847 ft.

Pawnee County

W. H. Atkinson's No. 1 Wilkerson, NW NE NW Sec. 14-22-4. Cd. 3,210-20 ft.; hd. L. and S.S.G.

Payne County

Helmerich & Payne's No. 1 Berry, Sec. 14-17-6. T.D. 4,870 ft. in Wlx.; F. 220 B.O. in 12 hrs.

C. R. Hoagland's No. 1 Stanolind, SE SE SW Sec. 27-18-4. Miss. 3,800 ft.; T.D. 3,905 ft.; D.P. stk.

Pontotoc County

Crescent Oil Co.'s No. 2 Thompson, NE NW SW Sec. 29-3-4. Drlg. by at 216 ft.

Seminole County

P. J. McIntyre et al's No. 1 Campbell, SE NE SE Sec. 24-10-7. Cg. 3,505 ft.; rec. wtr.; T.D. 3,524 ft.; drld. out to 1,621 ft.; rec. S.W.; S.D.

Wood Oil et al's No. 1 Crow, SE SE SE Sec. 31-8-6. Drlg. 3,775 ft.

Sequoyah County

Thompson Bros.' No. 1 Ruby, NW NW NE Sec. 30-12-22. Hntn. 1,451 ft.; T.D. 1,912 ft. (cor.); S.D.

Washita County

Continental Oil Co.'s No. 1 Proctor, C NW Sec. 28-10-20w. S.G. 10,750 ft.; perf 13,363-70 ft.; T.D. 14,582 ft.; P.B. 11,135 ft.; perf. and rec. N.S.; shot 10,896-10,920 ft. and rec. puff of gas; incr. gas 10,760 ft.; D.&A.; pulling pipe.

SOUTHERN OKLAHOMA

Atoka County

W. R. Holly's No. 1 Johnson, NW NW NE Sec. 36-3s-13. S.D. 148 ft.

Carter County

W. F. Turner's No. 1 Smith, NE SW SE Sec. 16-3s-1w. Drlg. below 3,625 ft.

Choctaw County

Clyde Ross et al's No. 1 Hardy, SE SE NW Sec. 21-7s-15. Sd. 1,785 ft.; T.D. to test.

Jackson County

English Drlg. Co.'s No. 1-A Aetna Life, SE SE NE Sec. 26-3n-20w. S.D. 1,610 ft.; csg.

Harper et al's No. 1 Thompson, SE SE SE Sec. 5-1s-21w. Drlg. sh. 3,875 ft.

Jefferson County

Fred Land et al's No. 1 Barrett, NE SE SE Sec. 14-6s-6w. Sd. 1,852 ft., S.O.; D. P. stk. at 1,100 ft.; T.D. 1,890 ft.; S.D.

H. M. Weir's No. 1 Carmichael, NE NE SW Sec. 23-7s-7w. Drlg. 3,525 ft.

Marshall County

Hughes et al's No. 1 Vittitto, C NE SE Sec. 11-5s-4e. O.W.D.D.; O.T.D. 7,100 ft.; T.D. 7,110 ft.; S.D.

Johnson et al's No. 1 Godfrey, SW SE NE Sec. 14-6s-6e. Vla. 2,627 ft.; S.S.O.; T.D. 4,455 ft. in sd.; S.O.; S.D.

Pure Oil's No. 1 Little, W½ NE SE Sec. 28-5s-7e. Drlg. 1,620 ft.

Tillman County

Magnolia Pet. Co.'s No. 1 Amyx, NW SE SE Sec. 17-3-16w. Stain oil 5,310 ft.; Vla. 5,110 ft.; T.D. 5,812 ft.; S.D.

KANSAS

Week Ended January 6 (Descriptions are East unless marked otherwise)

Barton County

Brunson's No. 1 Wondra, CWL SW NE Sec. 15-17-12w. Drlg. 1,840 ft.

Crown Pet. Co.'s No. 1 Marchand, NE SE NW Sec. 13-20-11w. Drlg. 2,910 ft.

Duwe & Farris' No. 1-A Meggers, CEL SW Sec. 21-20-11w. Lans. 3,091 ft.; Arb. 3,339-52 ft., T.D.; D.&A.

Butler County

Allison & Talbott's No. 1 Zink, SE SE NE Sec. 32-29-5. Lost hole 2,710 ft.; drlg. 205 ft., new hole.

Carey & Jennings' No. 1 Kelly, C SW Sec. 20-27-4. S.D. 2,660 ft.

Cromwell & Lewis' No. 1 Stern, NW NW NW Sec. 27-27-6e. M.I.M.

Davidson & Flack's No. 1 Wilhite, NE NE SW Sec. 16-27-7. S.D. 295 ft.

Natl. Ref. Co. No. 1 Lankford, SE SE NE Sec. 23-27-5. Drlg. 55 ft.

C. H. Pechin et al's No. 1 Hartenbower (O.W.D.D.), NW NW NW Sec. 16-29-6. O.T.D. 3,257 ft.; Peru sd. 2,476-2,530 ft.; S.D. 1,200 ft.

Cowley County

Garden's No. 1 Rahn, SW SW NW Sec. 13-34-5. Bart. 2,936 ft.; T.D. 3,425 ft., in. Arb.; F. 120 B.O. 1st hr.; S.I.

Mission Oil's No. 1-A Hunt, SW SW NE Sec. 16-34-5. S.D. 525 ft.

Mitchell Drlg.'s No. 1 Batchelder, CEL SW¼ Sec. 27-30-6. Drlg. 700 ft.

Ellsworth County

W. N. Bartlett's No. 1 Janssen, SE SE SE Sec. 21-17-9w. Lans. 2,859 ft.; Arb. 3,310-25 ft., T.D.; D.&A.

Cities Service Oil Co.'s No. 1 Padier, S.O. 2,836 ft.; T.D. 3,113 ft.; P. 595 B. W. and no oil in 21 hrs.; P. 25 B.O. and 589 B.W. in 22 hrs.; rng. sqz. job.

Greenwood County

Chas. Barker's No. 1 Gregg, SW NW SE Sec. 35-25-12. (O.W.D.D.). O.T.D. 1,660 ft.; drlg. 1,955 ft.

A. A. Hinze et al's No. 1 Hester, NW SW NE Sec. 1-22-12. S.D. 510 ft.

Jefferson County

E. W. Mosbacker et al's No. 1 McLaughlin, SW NE NW Sec. 4-10-20. Bart. 1,422-26 ft.; at 1,430 ft. est. 6,000,000 cu. ft. gas; Miss. 1,465 ft.; at 1,441 ft. ga. 6,500,000 cu. ft. gas; T.D. 1,915 ft.; fsg

Johnson County

F. J. Kasper's No. 1 Kaths, SE SE NW Sec. 33-13-22. T.D. 794 ft.; est. 500,000 cu. ft. gas; S.D.O.

McCain's No. 1 Doan, C SW NW Sec. 34-12-22. Fsg. 853 ft.

Kingman County

Skelly Oil Co.'s No. 1 Miller, CSL N½ NE Sec. 31-27-10w. Set 7-in. 4,067 ft.; R.U.S.T.

McPherson County

Central Pet.'s No. 1 Swanson, C N½ NW NW Sec. 18-20-5w. Miss. 3,304-19 ft.; good sat.; R.U.S.T.; T.D. 3,343 ft.; H. F.O.; flw. by heads.

Westgate-Greenland's No. 1 Chindberg, C N½ NE SE Sec. 18-18-1w. S.S.O. 2,781-83 ft.; T.D. 2,795 ft.; acd. and P. 33 B.O. and 100 B.W. in 12 hrs.

Marion County

Polhamus et al's No. 1 Noone, NW NW SE Sec. 18-18-3. Kans. City 1,680 ft.; drlg. 2,680 ft.

Troxwell et al's No. 1 Bezdek, NE SW SW Sec. 32-17-4. Drlg. 1,320 ft.

Montgomery County

Lerke & Whortan's No. 1 Clemmer, C

SW SW Sec. 21-32-15. Arb. 1,530 ft.; set 5-in. csg.; W.O.C.

Pratt County

Skelly Oil Co.'s No. 1 Royse, C SW Sec. 9-28-11w. Lans. 3,004 ft.; Vis. 4,246-49 ft.; T.D. 4,268 ft.; S.S.O.; 802,000 cu. ft. gas.

Rice County

Mid-Plains Oil Co.'s No. 1 Newkirk, CSL SW SW Sec. 14-18-7w. C.O. 1,700 ft.

Saco Oil's No. 1 Habeger, SE SE SW Sec. 12-18-10w. Tpk. 2,494 ft.; Lans. 2,905 ft.; Arb. 3,249 ft.; T.D. 3,268 ft.; P. 12 B.O.P.H.; pot. 373 B.O.

Vickers Pet. Co.'s No. 1-A Rodenberg, CNL NW¼ Sec. 8-18-10w. Lans. 2,930 ft.; Arb. 3,265-81 ft., T.D. N.S.

Rooks County

Broadview Oil's No. 1 Baxter, NE SW SW Sec. 35-8-16w. Lans. 3,180 ft.; S.S.O.; T.D. 3,623 ft.; P. 89 B.O. in 7 hrs.; pot. 269 B.O.P.D.

Russell County

Ray Shaffer et al's No. 1 Shaffer, NE NE SW Sec. 9-13-11w. S.D. 1,315 ft.

Sheridan County

Cities Service Oil Co.'s No. 1 McGinnis, SW SW NW Sec. 10-9-27w. S.D.O. 4,865 ft.

Stafford County

Continental Oil Co.'s No. 1 Keller, SE SE SE Sec. 15-24-13w. S.O. 3,733-43 ft., cd. 4,111-16 ft. and rec. 5 ft. sat.; T.D. 4,116 ft.; 3,900 ft. O.I.H.

Shell Oil's No. 1 Smith, SE SE NW Sec. 9-21-11w. S.S.O. in core at 3,410-15 ft.; R.U.S.T. 3,415 ft.; T.D. 3,462 ft.; P.B. 3,388 ft.; flw. 82 B.O. in 6 hrs. by hds.

Woodson County

Bird, Hanley & Sheedy's No. 1 Pingrey, C S½ SE Sec. 22-25-15. Spd.

MISSOURI

Adair County

J. W. Ettington et al's No. 1-A Clark, NE NE SE Sec. 8-63-14w. S.D. 260 ft.

Ettington & Holmes' No. 1 Kapps, SW SW SW Sec. 31-64-15w. Drlg. 190 ft.

Bolinger County

Deimund Oil's No. 1 Cooper, SE SE SE Sec. 14-29-9e. T.D. 1,850 ft.; S.D.

Buchanan County

Miller et al's No. 1 Carrough, C SE SE Sec. 24-57-35w. Sylvan 1,939 ft.; T.D. 1,943 ft.; S.D. for better weather.

Charlton County

L. E. Mummert et al's No. 1 Rickert, NW NE SE Sec. 26-54-20w. Loc.

DeKalb County

E. H. Lawhon et al's No. 1 Gottschall, C SE SE Sec. 18-59n-32w. Loc.

Geo. W. Moore's No. 1 McQuate, NE SW SW Sec. 11-57n-31w. Miss. 1,075 ft.; S.D. csg. 1,500 ft.

Holt County

Brin & Nathan's No. 1 Decker, C NW NW Sec. 1-61-38w. T.D. 1,030 ft.; S.D. for csg.

Jackson County

Hulse & Christopher's No. 1 Wiston, NE NW SE Sec. 22-49-32w. T.D. 510 ft.; shot in sd.; no incr.; may dpn.

Mercer County

Geo. W. Moore's No. 1 Moss, NW SW SE Sec. 30-65-24w. Hntn. 1,273 ft.; T.D. 1,879 ft.; fsg.

Knox County

W. H. Oberithier et al's No. 1 Campbell, C NE Sec. 18-61-12w. Hunton 576 ft.; S.D.

Platte County

Bradford & Sons' No. 1 Renner, NW NE SW Sec. 5-50-33w. Drlg. 465 ft.

Roach-Vincent et al's No. 1 Dillingham, NE SW Sec. 16-53-34w. S.D. 1,025 ft.; to resume when weather permits.

Schuyler County

T. E. Baldwin's No. 1-A Johnson, NW NE NE Sec. 21-65-15w. T.D. 1,100 ft., in Hunton lime, S.O.; S.D. for casing.

Rogers & Morrow's No. 1 Seamster, C N½ SW SE Sec. 6-64-13w. Drlg. 800 ft.

Randolph County

A. A. Ash et al's No. 1 Alexander, C SE Sec. 14-55-13w. Loc.

IOWA

Fremont County

Oscar Gruber's No. 1 fee, C SW SE Sec. 8-67n-40w. Base Ft. Scott 750 ft.; T.D. 1,065 ft.; S.D. for csg.

Guthrie County

F. E. Hunt et al's No. 1 McConnell, C SE SE Sec. 11-78n-30w. Drlg. 550 ft.

Union County

Phillips Pet. Co.'s No. 1 Creston, C SE NE Sec. 31-71-30w. T.D. 1,330 ft.; S.D.

NEBRASKA

Cass County

Golden Rod Oil Co. No. 1 Sparer, SE SE SE Sec. 8-11-13e. S.D. 1,205 ft. in Vla. L.

Dakota County

Peder Skriver's No. 1 Armour, NE NE NE Sec. 33-28-8. T.D. 1,100 ft.; S.D.

Dawes County

G. E. Mitchell's No. 1 Palmer, NW NW SW Sec. 1-33-50w. (O.W.D.D.); O.T.D. 2,964 ft.; R.U. to D.D.

Fillmore County

Dan Kornfeld's No. 1 Mathis, NE NE NE Sec. 22-5-1w. Fsg. 2,005 ft.

Keith County

California-Nebraska Oil, Ltd.'s No. 1 Guststuehm, NW NW NW Sec. 21-14-37w. Dak. 2,772 ft.; S.O. 2,895-2,901 ft.; cd. 3,258-61 ft.; S.S.O.; S.D. 3,300 ft.

Pawnee County

Blaser & Hoerman's No. 1 Wilson, NE NW NW Sec. 4-1-10. S.S.O. 470-71 ft., drlg. 476 ft.

Richardson County

Pawnee Royalty's No. 1 Boice, CSL N½ NE NE Sec. 18-1-16e. Hntn. 2,276 ft.; dpnd. to 2,292 ft.; acd.; P.&F. 100 B.O. P. 230 B.O. in 24 hrs.; dpnd. to 2,292 ft.; acd.; P.&F. 100 B.O. and 300 B.W. daily.

Pawnee Royalty's No. 1 Myers, C NW NW Sec. 24-1-1e. Miss. 1,890 ft.; T.D. 2,275 ft.; rng. 8-in.

Stephens & Uhri's No. 1-A Ogle, NW SE SE Sec. 9-1-14. Rotary tools on ground.

Stephens & Uhri's No. 1 Stauffer, SW SW NE Sec. 21-1n-13e. S.D. 475 ft.

Scotts Bluff County

Albert Wood et al's No. 1 McHenry, SE NE NE Sec. 33-23-57w. T.D. 625 ft.; S.D.

J. A. Fairy Pet.'s No. 1 McCulley, C SE SE Sec. 35-23-58w. S.D. 2,035 ft.

ARKANSAS

Columbia County

Arkansas Fuel Oil Co.'s No. 2-B King, C SE NW Sec. 21-17-20. T. Smkvr. L. 7,606 ft.; T. 1st por. 7,653 ft.; main por. 7,669 ft.; set 6-in. csg. 7,682 ft.; T.D. 7,682 ft.; washed 90% S.W.; P.B.

Gulf Ref. Co.'s No. 1 Lewis, C SW NE Sec. 12-18-23. T.D. 6,830 ft.; T. Ctn. Vly. 6,688 ft.; drlg. sh.&sd. 7,422 ft.

Hunt Oil Co.'s No. 2 McWilliams, NE NE Sec. 16-18-19. Drlg. 450 ft.

J. K. Mahoney's No. 2 E. Riley, C NE NE Sec. 14-18-19. R.U.

Normandie Oil Co.'s No. 1 H. E. King, C NE NE Sec. 20-17-20. Set 16-in. csg. 120 ft.; 10¾-in. csg. 2,200 ft.; drlg. ahd.

Phillips Pet. Co.'s No. 1 Joiner unit, C SW NE Sec. 22-17-20. Set 9⅝-in. csg. 3,208 ft.; T. por. L. 7,489 ft.; T.D. 7,700 ft.; rng. csg.

Placid Oil Co.'s No. 1 Boothe Unit, C NE SE Sec. 10-17-19. Drlg. 6,605 ft.

Shell Oil Co., Inc.'s No. 1 Keith, C SE SE Sec. 9-18-22. 9⅝-in. csg. 2,265 ft.; T.D. 8,849 ft.; T. por. L. 8,823 ft.; cd. 8,859-69 ft.; D.S.T. 8,846-59 ft.; 10-min.; W.P. 350 lb.; rec. 30 ft. dist., 150 ft. oil cut with dist. and wash wtr., and 90 ft. wash wtr.; T.&B. cks., ¼-in.; B.H.P. 3,500 lb.; cg. 8,874 ft.

Shell Oil Co., Inc.'s No. 2 D. H. Lewis, C SE NE Sec. 19-17-19. Set 13⅜-in. csg. 136 ft.

Southwood Oil Co.'s No. 1 Poindexter-Couch unit, C N½ S½ SW Sec. 23-17-20. R.U.

Standard Oil Co. of La.'s No. 2 Booth, 660 ft. E, 560 ft. S, NW cor. SW SE Sec. 24-17-20. Drlg. hd. sdy. sh. 6,018 ft.

Standard Oil Co. of La.'s No. 1-B Longino, C NW SE Sec. 19-17-19. R.U.

Superior Oil Co.'s No. 1 Martel, C SW SW Sec. 10-18-22. Set 9⅝-in. csg. 4,107 ft.; T. Smkvr. L. 8,796 ft.; cg. 8,799 ft.

Tide Water-Seaboard Oil Co.'s No. 1 W. Mack, C SW NE Sec. 16-18-19. Loc.

G. H. Vaughn's No. 1-C Jones, Sec. 22-17-20. T. por. L. 7,612 ft.; set 6-in. csg. 7,632 ft.

Craighead County

Tennark, Inc., No. 1 R. M. Martin, SE cor. NE NE Sec. 35-14-3e. Drlg. L.&sd. 4,725 ft.

Faulkner County

Cato Oil Co.'s No. 1 Harrell, 330 ft. SE cor. SE SW Sec. 35-4-12. U.R. 7-in. csg. 2,538 ft.

Howard County

Joe Rogers' No. 1 Dierks Lbr. Co., C SW SW Sec. 7-8s-28w. R.U.

Lafayette County

East Texas Ref. Co. et al's No. 1-C C. Warren et al, C NE SE NW Sec. 24-16-24. Tstd. S.W. 3,504-24 ft.; P.B. 2,275 ft.; drld. to 2,345 ft.; 5½-in. csg. 2,323 ft.; swbd. dry; W.O.

Little River County

C. & M. Drlg. Co.'s No. 1 Strawn, NW cor. SE SW Sec. 17-10-32. T.D. 1,810 ft.; arng. to drill plug; 7-in. csg. cmtd. 1,590 ft.; set 245-ft. lnr.; arng. to bail.

Lonoke County

Lunnon Howell & Ford's No. 1 City of Cabbot, C NE cor. Lot 1, Blk. 6, Sec. 18-4n-9w. O.W.D.D.; O.T.D. 670 ft.; drlg. 857 ft.

Nevada County

Berry Asphalt Co.'s No. 5 Fincher, 220 ft. NW cor. NE SE Sec. 10-14-20. Set 10-in. csg. 20 ft.; T. sd. 1,245 ft.; set 7-in. csg. 1,245 ft.; T.D. 1,246 ft.; W. O.C.

Union County—Schuler

Lion Oil Co.'s No. 1 Land, 330 ft. NE cor. SW SE Sec. 13-18-18. Drlg. 6,931 ft.

Lion Oil Ref. Co.'s No. 7-B Morgan, 330 ft. NW cor. W½ SE Sec. 18-18-17. T. Jones sd. 7,546 ft.; T.D. 7,730 ft.; set 7-in. csg. 7,730 ft.; perf. 5,570-80 ft. and 5,592-98 ft.; swbd. S.W.; S.G.; sqzd.; perf. 5,823-26½ ft.; swbd. S.W.; set retainer 5,813 ft.; tstg. perf. 5,-871 ft.

Phillips Pet. Co.'s No. 1 Goodwin, 330 ft. N, 660 ft. W, SE cor. Lot 1, Sec. 19-18-17. Set 13⅜-in. csg. 147 ft.; drlg. 7,014 ft.

Union County—Other

Barnsdall Oil Co.'s No. 1 Cameron, C SW SW Sec. 36-19-17. Set 13⅜-in. csg. 239 ft. (cor.); set 10¾-in. csg. 2,430 ft.; cd. 4,149-66 ft.; rec. 16 ft. 8 in. hd. sd., sl. odor gas; B. chalk 2,593 ft.; T. Tko. 3,061 ft.; drlg. 7,315 ft.

Delta Drlg. Co.'s No. 1 C. T. Grace, C SE SE Sec. 31-12-14. Set 10¾-in. csg. 815 ft.; T. Sur. L. 6,701 ft.; T. por. 6,-708 ft.; S.W. 6,712 ft.; tstd. mud, S.W.&S.O. 6,701-27 ft.; T.D. 6,819 ft.; arng. set 6-in. csg. approx. 4,800 ft.

Ruth S. Easley's No. 1 J. M. Davis, C SE NW Sec. 28-16-14. Drlg. 2,669 ft.

Ouachita Union Oil Corp.'s No. 1 Ramsey est., 330 ft. NE cor., SE NW Sec. 26-17-14. Set 10-in. csg. 107 ft.; set whpstk. 3,042 ft.; cg. 3,189 ft.

LOUISIANA

N. LOUISIANA WILDCATS

Bienville Parish

Harry Hanbury's No. 1 Holston unit, 70 ft. from NE cor. SW NE Sec. 29-18-6. Spdg.

Bossier Parish

Gulf Ref. Co.'s No. 20 C. B. Hodges, 3,-

Prevent THREAD LEAKS

With RECTORSEAL *On Every Connection*

RECTORSEAL makes a positive leak-proof joint when applied to threaded or gasket connections on oil, gas, gasoline, water or mud lines. Even when threads or gaskets are badly worn, or when subjected to excessive vibration, RECTORSEAL never fails to maintain a perfect seal. It forms a plastic, elastic mass which seals quickly and positively, yet permits easy breakout. RECTORSEAL is insoluble in oils, and unaffected by salt water, dilute acids and by heat up to 400° F.

RECTORSEAL is being widely used for running casing and tubing, on separator and flow line connections, drilling rig connections, setting bolted steel tanks, on gas distribution systems, around natural gasoline plants and refineries, in butane plants and installations, on pipe line systems, and many other profitable applications.

Easily applied by any field worker.

Free illustrated booklet giving full details of this proven leak-preventer will be mailed upon request.

RECTOR WELL EQUIPMENT CO., INC.

Fort Worth, Texas

EXPORT: Lucey Export Corp., Woolworth Bldg., N.Y.C.

RECTORSEAL

THE POSITIVE LEAK PREVENTER

131 ft. N, 1,388 ft. W, SE cor. Sec. 24-16-12. T. Pett. L. 5,298 ft.; T. Travis Pk. 5,590 ft.; T.D. 7,689 ft.; hole clean; prep. resume drlg.

Triangle Drlg. Co.'s No. 5-A Herold, 334 ft. E, 333 ft. S, NW cor. Sec. 13-17-12. T. sd. 3,007 ft.; set 5½-in. csg. 3,007 ft.; T.D. 3,010 ft.; W.O.C.

Caddo Parish

Hugh Carney's No. 1 Burton, 2,279 ft. S, 773 ft. W, NE cor. NW Sec. 1-20-16. Set 10-in. csg. 80 ft.; drlg. sh. 950 ft.

D. T. Cauble's No. 1 Darnell, Sec. 17-22-16. Set 10-in. csg. 80 ft.; drlg. sh. 2,100 ft.

Mrs. O. P. Clements' No. 2-B Caddo Lv. Bd., Sec. 5-20-16. T. sd. 1,860 ft.; set 6-in. csg. 2,219 ft.

Roy T. Davis' No. 1 Hanner, 150 ft. E. 60 ft. N, SW cor. NW SE Sec. 1-20-16. Set 7-in. csg. 1,332 ft.; W.O.C.

H. H. Groneman's No. 1-A Browning, 380 ft. N, 280 ft. E, SW cor. Sec. 22-22-16. Set 5⅛-in. csg. 2,633 ft.; T.D. 2,633 ft.; swbg. to test.

Holcomb & Thomason's No. 1 Butler, 740 ft. S, 330 ft. E, NW cor. NE¼ Sec. 23-22-16. T.D. 2,640 ft.; no sd.; S. D.; W.O.

C. C. Lowery's No. 1 Huckaby, 890 ft. S, 990 ft. E, C Sec. 7-20-15. Set 10-in. csg. 60 ft.; set 7-in. csg. 1,328 ft.; acd. with 3,000 gal.; tstg. 1,486 ft.

C. H. Lyons' No. 1 Bluestein, 548 ft. S, 260 ft. E, C Sec. 35-18-14. Set 9-in. csg. 1,234 ft.; drlg. sh.&anhy. 4,725 ft.

McDonald & Campbell's No. 6-A Natalie, 1,840 ft. W, 1,630 ft. N, SE cor. Sec. 10-20-15. T.D. 2,205 ft.; W.O.S.R.

E. E. Marr's No. 1 Brown, Sec. 11-20-16. Set 10-in. csg. 100 ft.; drlg. 1,165 ft.

J. F. Mechem's No. 2 Crystal fee, 400 ft. S, 640 ft. W NE cor. Sec. 14-21-16. Set 8-in. csg. 1,012 ft.; tstd. dry; drlg. 1,980 ft.

E. O. Mitchell's No. 1 fee, Sec. 12-20-16. Set 10-in. csg. 60 ft.; drlg. 1,504 ft.

O'Brien Bros.' No. 1 Bradford et al, Sec. 24-21-15. Set 10-in. csg. 100 ft.; drlg. sh. 820 ft.

L. R. Skidmore's No. 1 Landau, 150 ft. N, 220 ft. E, SW cor. Sec. 1-20-16. Set 10-in. csg. 80 ft.; drlg. sh. 700 ft.

Southern O. & G. Co., Inc.'s No. 1 Muslow, 1,654 ft. S, 573 ft. W, NE cor. NW Sec. 5-20-15. Tstd. S.O.; T.D. 1,517 ft.; acd. with 3,000 gal.; tstg.

Stanolind O. & G. Co.'s No. 1, 131 Dillon hrs., C SE NE Sec. 14-21-15. Ran Schmb. 9,109 ft.; T. Smkvr. L. 8,952 ft.; ran Schlum. 10,164 ft.; T. cap rock 10,148 ft.; igneous rock 11,419 ft.; T. salt 10,159 ft.; base salt 11,405 ft.; T.D. 11,419 ft.; cut 7-in. csg. 6,000 ft.; could not pull; cut csg. 4,350 ft.; plg.

Stanolind O. & G. Co.'s No. 6 Huckaby, Sec. 11-21-15. Set 5-in. csg. 1,545 ft.; W.O.C.

Joe G. Strahan's No. 2 Hart, Sec. 29-21-16. Set 10-in. csg. 60 ft.; drlg. 1,545 ft.

Sultana Drlg. Co.'s No. 2-A Bain, 480 ft. S, 660 ft. E, C Sec. 4-23-15. 5½-in. csg. 5,984 ft.; swbg. to test 6,082 ft.

Temple Oil Co.'s No. 4 Bostwick, 230 ft. S, 323 ft. W, NE cor. SW SW Sec. 13-22-16. 5½-in. csg. 2,636 ft.; T.D. 2,642 ft.; W.O.C.

Temple Oil Co.'s No. 5 Bostwick, 330 ft. N, 223 ft. E, SW cor. NE SW Sec. 13-22-16. 10¾-in. csg. 105 ft.; set 7-in. csg. 2,550 ft.; T.D. 2,582 ft.; W.O.C.

Jack Terrell's No. 1 Welch, Sec. 3-20-16. Will set csg. 947 ft.

Texas Co.'s No. 10 Ellerbe fee, Sec. 15-21-16. Set 6⅝-in. csg. 2,284 ft.; T.D. 2,297 ft.; W.O.C.

Texas Co.'s No. 3 Guy & Richardson, Sec. 1-20-16. Set 6⅝-in. csg. 1,325 ft.; fsg. 1,508 ft.

Alf Tillman's No. 1 Greer, 50 ft. N, 60 ft. W, SE cor. NW NW Sec. 12-20-16. Drlg. sh.&sd. 1,307 ft.

Travis & Red Iron Drlg. Co.'s No. 2 Chandler, Sec. 5-23-15. Drlg. 5,523 ft.

Whitehurst Drlg. Co.'s No. 1 Shreveport Pet. Co., 990 ft. W. 493 ft. N, SE cor. Sec. 2-20-16. Set 10-in. csg. 80 ft.; drlg. sh. 960 ft.

Ivan Wright's No. 1 Neel est., Sec. 12-20-16. R.U.

De Soto Parish

N. W. Hunter's No. 1 Anders-LeBlanc, C NW SE Sec. 5-11-14. Set 10-in. csg. 590 f.; D.ST. 1,954-74 ft.; rec. 150 ft. mud, 25 min.; S.S.O.; S.G. tried to blow out; twisted off 2 jts. D.S. while cond mud; fsg. D.S. 4,818 ft.; S.D.

Dewey Jaun's No. 1 Frost Lbr. Ind., 6,600 ft. SE cor. SW Sec. 14-22-3e. Set 10-in. csg. 545 ft.; drlg. sh. 2,210 ft.

La Salle Parish

Georgetown Oil Co.'s No. 3 Baldridge, 660 ft. S, 650 ft. E, NW cor. NE NW Sec. 11-9-1e. Set 5½-in. csg. 1,503 ft.; T.D. 1,509 ft.; W.O.S.R.

H. L. Hunt and Ark. Fuel Oil Co.'s No. 1 Goodpine Lbr. Co., C NW NW Sec. 18-10n-3e. Fsg. 3,030 ft.; blew out and bridged at 1,200 ft.; drld. bridge and twisted off 2,000 ft. D.S.; left wall hook in hole while fsg.; P.B. 900 ft. and W.O.C.

W. B. Jarvis' No. 2-A Montague, 530 ft. S, 270 ft. E, NW cor. Sec. 11-9-1e. S.D. 1,495 ft.

Morehouse Parish

Union Prod. Co.'s No. 1-A Tensas-Delta, 1,894 ft. W, 1,584 ft. S, NE cor. SE Sec. 8-22-4. Set 20-in. csg. 125 ft.; 16-in. csg. 712 ft.; set 10¾-in. csg. 2,448 ft.; T. salt 8,114 ft.; drlg. sh. 10,471 ft.

Natchitoches Parish

Jack Lent et al's No. 1 Walker, C NE NE Sec. 9-10-10. 10-in. csg. 63 ft.; reported small S.O. 2,018 ft.; D.S.T. 2,007-18 ft.; rec. 32 jts. S.W.; S.D.

Sabine Parish

Ed Bailey's No. 1 Hale, 330 ft. NW cor. NE NW Sec. 6-7-12. S.D. 1,960 ft.

John Derryberry et al's No. 1 Manton, 330 ft. NE cor. NW SW Sec. 34-7-13. 6-in. csg. 2,450 ft.; drlg. ch. rk. 2,830 ft.

Hayner et al's No. 1 Sabine, 330 ft. N, 497 ft. W, SE cor. Sec. 13-7-12. Set 10-in. csg. 58 ft.; drlg. ch. rk. 2,961 ft.

Hunter Co.'s No. 3-B Sabine, C SE NW Sec. 17-7-13. Loc.

N. B. Livingston's No. 1 Bowman Hicks, 660 ft. SE cor. SW Sec. 36-9-14. Set 10-in. csg. 110 ft.; D.S.T. 3,125-59 ft.; ¼-in. cks. T.&B.; 35 min.; rec. 150 ft. mud and S.G.; rng. 5½-in. csg. 3,508 ft., T.D.; reported S.G. 3,421-59 ft.

Major Oil Co.'s No. 1-B Sabine, 330 ft. NW cor. NW NE Sec. 8-7-13. 7-in. csg. 2,071 ft.; T.D. 2,530 ft.; tstd. S.O. 2,505 ft.; R.U.C.T.

B. F. Phillips' No. 1 Blankenship, 330 ft. S, 202 ft. W, NE cor. SE NW Sec. 13-9-12. Reported S.G. 3,230 ft.; S.D. 3,571 ft.

W. L. Posey's No. 1 Rivers, C NW NW Sec. 26-8-13. 6-in. csg. 2,147 ft.; T.D. 2,150 ft.; T. clk. 2,145 ft.; tstd. S.O. and acd. with 3,000 gal.; tstd. S.O. 2,515 ft.; will acd. 2,580 ft.

Claude H. Smith's No. 1 Whitney Corp., 330 ft. N and E, C Sec. 24-10-14. Set 10-in. csg. 42 ft.; S.D.

J. E. Stack's No. 1 Weber, 330 ft. SE cor. SW NE Sec. 8-7-13. Set 10-in. csg. 42 ft.

Texas Co.'s No. 3-B Glauque, 660 ft. S and E, C Sec. 10-7-13. Crooked hole; will skid over 2,114 ft.

K. H. Thomas' No. 1 Long Bell, 330 ft. SW cor. NE SE Sec. 5-8-13. S.D. 1,850 ft.; repair rig.

Lee Whitehurst's No. 1 Summers, 1,210 ft. N, 440 ft. W, SE cor. NE Sec. 14-7-13. Set 6-in. csg. 3,131 ft.; tstd. S.O.; R.U.C.T.; to dpn.

Union Parish

Memphis Nat. Gas Co.'s No. 7 Frost Lbr. Ind., Sec. 22-22-3. 8-in. csg. 776 ft.; 6⅝-in. csg. 2,151 ft.

We Hope G. & O. Co.'s No. 9 Frost Lbr. Ind., Sec. 24-22-3. Set 8-in. csg. 759 ft.

Webster Parish

Hassie Hunt's No. 2 Coyle, C SW SE Sec. 22-21-10. No Hillwy. sd.; S.D. 6,250 ft.; W.O.

Hunt Oil Co.'s No. 1 Gains, 50 ft. NW C NW NE Sec. 30-21-9. Drlg. sh. 1,932 ft.

Hunt Oil Co.'s No. 3 Stewart, C NE NW Sec. 29-21-10. D sd. 8,476-96 ft. (oil); Bod. sd. 8,574-8,604 ft. (gas and dist.); Davis sd. 8,838-58 ft. (gas and dist.); set 7-in. csg. 8,889 ft.; T.D. 8,893 ft.

Quad Oil Co.'s No. 1 Gray, 735 ft. N, 600 ft. W, SE cor. Sec. 27-21-10. Set 9⅝-in. csg. 634 ft.; drlg. sh. 5,150 ft.

Stanolind O. & G. Co.'s No. 4 Pardee, 660 ft. SE cor. Sec. 25-21-10. T. Tr. Pk. 5,829 ft.; 9⅝-in. csg. 5,950 ft.; T.C.V. 7,988 ft.; D sd. 8,410-26 ft. (oil); D sd. 8,405-25 ft. (oil); Bod. 8,497-8,525 ft. and 8,536-51 ft. (oil); perf. 8,551-57 ft.; tstd. dry; perf. 8,548-51 ft.; swbg.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co.'s No. 1 David Meaux, Sec. 9-12s-3e. T.D. 11,359 ft.; T. gas sd. 11,318 ft.; D.S. stk.: P.B. and sidetracked; drlg. sh. 11,220 ft.

Continental Oil Co.'s No. 1 DeMary, Sec. 17-12s-3e. Drlg. sh.&L. 9,620 ft.

Continental Oil Co.'s No. 1 Franciol, Sec. 67-12s-3e. Drlg. sh. 1,720 ft.

Continental Oil Co.'s No. 1 Motty, Sec. 18-12s-3e. Drlg. sh. 7,783 ft.

Anse La Butte—St. Martin Parish

Glassell & Glassell's No. 1 Breauy, Sec. 117-9s-5e. Drlg. sh. 5,420 ft.

Bancroft—Becuregard Parish

Republic Prod. Co.'s No. 13 Columbia Ld. Co., Sec. 15-6s-13w. T.D. 7,330 ft.; comp.; no ga.

Republic Prod. Co.'s No. 4 Lutcher Moore, Sec. 16-6s-13w. Drlg. sh. 8,050 ft.

Republic Prod. Co.'s No. 2 Nettie Smith, Sec. 15-6s-13w. T.D. 7,319 ft.; I.P. 180 B.P.D.; 5/32-in. ck.

Republic Prod. Co.'s No. 2 Whitman, Sec. 15-6s-13w. Drlg. sh. 6,220 ft.

Barataria—Jefferson Parish

California Oil Co.'s No. 1 Danciger-State, Sec. 2-16s-23e. Loc.

California Oil Co.'s No. 1 Zeringue-Community, Sec. 2-16s-23e. Loc.

Carter, Perrin & Brian's No. 1 Ruttley Wiseman, Sec. 2-16s-23e. Drk.

Geo. Conover's No. 1 Conover Community, Sec. 22-15s-23e. Loc.

Fohs Oil Co.'s No. 1 Conzelman, Sec. 22-15s-23e. Loc.

Gulf Oil Corp.'s No. 1 Rathborne Co., Sec. 2-16s-23e. Spd.

Bateman Lake—St. Mary Parish

Texas Co.'s No. 3 State, Sec. 16s-12e. Loc.

Texas Co.'s No. 3 Wax Bayou, Sec. 21 16s-12e. Drlg. sh. 4,620 ft.

Texas Co.'s No. 4 Wax Bayou, Sec. 21-16s-12e. Drlg. sh. 4,460 ft.

Baton Rouge—East Baton Rouge Parish

Guaranty Oil Co.'s No. 2 Morgan, Sec. 65-7s-1w. T.D. 6,530 ft.; 5½-in. csg. 6,450 ft.; swbd. S.W.; S.D.

Wm. Helis' No. 1-C Duplantier, Sec. 45-7s-1e. T.D. 6,502 ft.; 7-in. csg. 6,492 ft. I.P. 216 B.P.D.; 10/64-in. ck.

Lisbon-Iberia Oil Co.'s No. 2-A College Town Community, Sec. 68-7s-1w. T.D. 6,526 ft.; 7-in. csg. 6,514 ft.; I.P. 312 B.P.D.; 13/64-in. ck.

Lisbon-Iberia Oil Co.'s No. 2 University Hills, Sec. 68-7s-1w. T.D. 6,498 ft.; 7-in. csg. 6,486 ft.; I.P. 310 B.P.D.; 13/64-in. ck.

Sugarfield Oil Co.'s No. 1 Kizer Community, Sec. 46-7s-1e. 10¾-in. csg. 1,415 ft.; cg. 7,220 ft.

Titanic Oil Co.'s No. 1 Dennis, Sec. 70-7s-1w. Drlg. sh. 6,210 ft.

Bay St. Elaine—Terrebonne Parish

Texas Co.'s No. 3 L.L.&E., Sec. 18-22s-18e. Loc.

Bayou Blue—Iberville Parish

Superior Oil Co.'s No. 1 Schwing Lbr. Co., Sec. 74-9s-10e. R.U.

Bayou Choctaw—Iberville Parish

Standard Oil Co. of La.'s No. 12 Wilbert, Sec. 53-9s-11e. Ran 10¾-in. csg.; drlg. salt 4,592 ft.

Bayou Des Allemand—La Fourche Parish

Amerada Pet. Corp.'s No. 3 Gheens, Sec. 56-15s-20e. T.D. 7,563 ft.; 5½-in. csg. 7,548 ft.

Bayou des Glaise—Iberville Parish

Humble O. & R. Co.'s No. 2-B Wilberts, Sec. 78-8s-8e. Drlg. sh. 1,500 ft.

Black Bayou—Cameron Parish

Shell Oil Co., Inc.'s No. 43 Watkins, Sec 7-12s-12w. T.D. 5,519 ft.; 7-in. csg. 5,447 ft.; P.B. 8,235 ft.; perf. csg. 5,230-15 ft.

Caillou Island—Terrebonne Parish

Texas Co.'s No. 12 State, Sec. 20-23s-20e. T.D. 4,982 ft.; sdtrkd.; T. salt 6,228 ft.; T.D. 6,236 ft.; P.B. 5,006 ft.; sdtrk.; drlg. sh. 5,794 ft.

Cameron Meadows—Cameron Parish

Magnolia Pet. Co.'s No. 26 Cameron Meadows, Sec. 21-14s-13w. Drlg. sh. 3,730 ft.

Chacahoula—La Fourche Parish

Sun Oil Co.'s No. 1 Cypress, Sec. 75-15s-15e. 13⅜-in. csg. 1,842 ft.; T. salt 6,072 ft.; T.D. 6,088 ft.; P.B. 2,100 ft.; sdtrkd.; T.D. 6,553 ft.; fsg.; sdtrkd.; T.D. 5,544 ft.; P.B. to sdtrk.; drlg. sd. 7,208 ft.

Sun Oil Co.'s No. 6 Dibert, Stark & Brown, Sec. 70-15s-15e. Drlg. sh. 6,480 ft.

Chalkley Field—Cameron Parish

Humble O. & R. Co.'s No. 1 Cameron Sch. Bd., Sec. 16-12s-6w. Loc.

Humble O. & R. Co.'s No. 5 K. B. Hanzen, Sec. 9-12s-6w. T.D. 8,651 ft.; I.P. 405 B.P.D.; ⅞-in. ck.

Humble O. & R. Co.'s No. 3 Sweet Lake Ld. & Oil Co., Sec. 8-12s-5w. Drlg. sh. 8,020 ft.

Humble O. & R. Co.'s No. 6 Sweet Lake Ld. & O. Co., Sec. 8-12s-6w. Drlg. sh. 8,216 ft.

Shell Oil Co., Inc.'s No. 6 Hanzen, Sec. 21-12s-6w. T.D. 8,995 ft.; fsg.

Union Sulphur Co.'s No. 1 Sweet Lake Ld. Co., Sec. 13-12s-7w. Drk.

Chenevville—Rapides Parish

S. W. Richardson's No. 8 Weil, Sec. 55-1s-2e. T.D. 5,764 ft.; I.P. 295 B.P.D.; ⅞-in. ck.

Darrow—Ascension Parish

Humble O. & R. Co.'s No. 28 Community, Sec. 30-10s-2e. R.U.

Humble O. & R. Co.'s No. 29 Community, Sec. 30-10s-2e. Loc.

Humble O. & R. Co.'s No. 17 Gumbel, Sec. 36-10s-2e. T.D. 8,570 ft.; P.B. 7,389 ft.

Kiva Oil Co. No. 1 Duplessis, Sec. 69 10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co.'s No. 10 State, Sec. 1-22s-15e. Drlg. sh. 3,170 ft.

Eola—Avoyelles Parish

Amerada Pet. Corp.'s No. 1 Dentetal unit, Sec. 1-2s-2e. Drlg. sh. 7,680 ft.

Amerada Pet. Corp.'s No. 6 Glaze, Sec. 6-2s-3e. T.D. 8,570 ft.; tstg.

Amerada Pet. Corp.'s No. 7 Glaze, Sec. 6-2s-3e. T.D. 8,570 ft.; tstg.

Amerada Pet. Corp.'s No. 3 Irion, Sec. 6-2s-3e. R.U.

Amerada Pet. Corp.'s No. 9 Marchive, Sec. 6-2s-3e. T.D. 8,570 ft.; perf. csg. 8,480-8,560 ft.; I.P. 654 B.P.D.; ¼-in. ck.

Amerada Pet. Corp.'s No. 1 R-3 Sciater, Sec. 1-2s-2e. Drlg. sh. 6,930 ft.

G. W. Kennedy's No. 1 Eola Irion, Sec. 1-2s-3e. Drlg. sh. 7,750 ft.

S. W. Richardson's No. 9 Haas Inv. Co., Sec. 7-2s-3e. T.D. 8,579 ft.; I.P. 687 B. P.D.; ¼-in. ck.

S. W. Richardson's No. 1 A. Mizek, Sec. 7-2s-3e. T.D. 8,571 ft.; tstg.

Sun Oil Co.'s No. 3 Townsend, Sec. 8-2s-3e. Drlg. sh. 5,410 ft.

Gordon Island—Plaquemines Parish

Texas Co.'s No. 39 State, Sec. 38-23s-33e T.D. 6,952 ft.; hole bridged.

Golden Meadow—La Fourche Parish

Bateman Drlg. Co.'s No. 1 Harry Louviere, Sec. 9-19s-22e. T.D. 5,580 ft.; 5½-in. csg. 5,260 ft.; perf. csg. 5,150-79 ft.; pulling screen.

Bennett O. & R. Co.'s No. 1 Philozate, Sec. 12-19s-22e. Drlg. sd.&sh. 7,502 ft.

Berkshire Oil Co.'s No. 2 Nicol, Sec. 9-19s-22e. 15½-in. csg. 91 ft.; drlg. 1,710 ft.

Brown & Woods' No. 1 S. Hogan, Sec. 9-19s-22e. T.D. 2,710 ft.; P.B. to 1,500 ft.; sdtrkd.; T.D. 2,672 ft.; 7-in. csg. on bttm.; perf. csg. 2,650-65 ft.; would not flow; W.O.S.R.

Taylor Fithian's No. 1 Cheramie, Sec. 12-19s-22e. Drk.

Taylor Fithian's No. 1 Redstock, Sec. 2-19s-22e. T.D. 2,691 ft.; 5½-in. csg. 2,687 ft.; perf. csg. 2,646-60 ft.; W.O. S.R.

Taylor Fithian's No. 1 Martin, Sec. 12-19s-22e. Spd.

Wm. Helis' No. 3 Gaspard, Sec. 9-19s-22e. T.D. 2,684 ft.; 6-in. csg. 2,655 ft W.O.S.R.

M. H. Marr et al's No. 2 B. & D. unit, Sec. 17-19s-22e. Loc.

M. H. Marr et al's No. 3 Terrebonne, Sec. 9-19s-22e. Loc.

M. H. Marr et al's No. 4 Adam Terrebonne, Sec. 9-19s-22e. Drk.

Martex Oil Corp. of La.'s No. 2-A Rebstock, Sec. 2-19s-22e. 16-in. csg. 75 ft. drlg. 1,812 ft.

Martex Oil Co.'s No. 3-A Rebstock, Sec. 2-19s-22e. Drk.

Martex Oil Co.'s No. 1-B Rebstock, Sec. 2-19s-22e. Drk.

Golden Meadow Oil Co.'s No. 1 Whitney Rebstock, Sec. 2-19s-22e. T.D. 2,700 ft.; 5½-in. csg. 2,700 ft.; I.P. 200 B.P.D.; pmpg.

Martex Oil Co.'s No. 1 Rebstock, Sec. 2 19s-22e. Loc. abd.

S. Rhodes' No. 2 Falgout Holding, Sec. 12-19s-22e. T.D. 5,216 ft.; 7-in. csg. 5,216 ft.; I.P. 166 B.P.D.; ⅛-in. ck.

Fred Shield's No. 1 Paul Callais, Sec. 2-19s-22e. 10¾-in. csg. 80 ft.; T.D. 2,658 ft.; tstg.

Terouche Oil Co.'s No. 2 Cheramie, Sec. 12-19s-22e. Drk.

Texas Co.'s No. 4 Falgout Holding Co., Sec. 9-19s-22e. T.D. 7,935 ft.; 7-in. csg. 7,900 ft.; I.P. 357 B.P.D.; 12/64-in. ck.

Texas Co.'s No. 6 Falgout Holding, Sec. 9-19s-22e. T.D. 5,170 ft.; 7-in. csg. 5,150 ft.; I.P. 166 B.P.D.; ⅛-in. ck.

Texas Co.'s No. 7 Falgout Holding Co., Sec. 9-19s-22e. Loc.

Texas Co.'s No. 3 La Terre Co., Sec. 1-20s-21e. Drk.

Texas Co.'s No. 7 L.L.&E., Golden Meadow, Sec. 78-19s-21e. Drlg. sh. 7,930 ft.

Texas Co.'s No. 8 L.L.&E., Golden Meadow, Sec. 78-19s-21e. 10¾-in. csg. 1,406 ft.; drlg. sh. 2,310 ft.

Grand Bay—Plaquemines Parish

Gulf Oil Corp.'s No. 5-A Grand Prairie, Sec. 31-19s-19e. T.D. 8,085 ft.; 9⅝-in. csg. 8,070 ft.; T.D. 8,754 ft.; I.P. 260 bbl., 8 hrs.; ¾-in. ck.

Gulf Oil Corp.'s No. 6-A Grand Prairie Lv. Dist., Sec. 17-20s-10e. T.D. 10,453 ft.; P.B. 10,050 ft.; S.D.

Gulf Oil Corp.'s No. 7-A Grand Prairie Lv. Dist., Sec. 5-20s-19e. Loc.

Gulf Oil Corp.'s No. 8-A Grand Prairie Dist., Sec. 5-20s-19e. Loc.

Gulf Oil Corp.'s No. 4 State, Sec. 20-19s-19e. Loc.

Texas Co.'s No. 1 State-Lookout Pass, Sec. 48-20s-18e. Loc.

Grand Lake—Cameron Parish

Superior Oil Co.'s No. 5 State, Twp. 13s-4w. T.D. 8,075 ft.; 7-in. csg. 8,075 ft.; rec. S.W. 7,090-7,100 ft.; perf. csg. 6,715-20 ft.; I.P. 200 B.P.D.; 9/64-in. ck.

Superior Oil Co.'s No. 6 State, Twp. 13s-4w. Loc.

Hackberry—Cameron Parish

Gulf Oil Corp.'s No. 25-A Erwin, Sec. 13-12s-10w. Drk.

Gulf Oil Corp.'s No. 29-B Gulf Ld., Sec. 14-12s-10w. Drlg. sh. 3,370 ft.

Harrison & Abercrombie's No. 1 Doiron, Sec. 37-12s-10w. R.U.

Stanolind O. & G. Co.'s No. 29-B Gulf Ld., Sec. 14-12s-10w. Drlg. sh. 8,080 ft.

Stanolind O. & G. Co.'s No. 30-B Gulf Ld., Sec. 31-12s-10w. T.D. 7,225 ft.; P. B. 4,800 ft.; sdtrkd.; T.D. 7,501 ft.; abd.

Superior Oil Co.'s No. 8 Benson-Vincent, Sec. 30-12s-10w. T.D. 7,664 ft.; I.P. 75 bbl., 5 hrs.; 12/64-in. ck.

Texas Co.'s No. 29-B State, Twp. 12s-9w. Loc.

Union Sulphur Co.'s No. 2 Doiron, Sec. 37-12s-10w. Drlg. sh. 5,167 ft.

Horseshoe Bayou—St. Mary Parish

Texas Co.'s No. 3 St. Mary Parish Ld. Co., Sec. 37-17s-9e. Drlg. sh.&L. 7,939 ft.

Jeanerette—St. Mary Parish

Herton Oil Co.'s No. 6 Roane, Sec. 38-13s-9e. T.D. 10,789 ft.; 7⅝-in. csg. 10,260 ft.; stk. cutting tool; P.B. 10,170 ft.; tstg.

Jefferson Island—Iberia Parish

Texas Co.'s No. 4 Jefferson Island Salt, Sec. 58-12s-5e. Drlg. sdy. L. 5,680 ft.

Texas Co.'s No. 3 State, Twp. 12s-5e R.U.

Jennings—Acadia Parish

Glassell-Glassell's No. 8 Trusher, Sec. 47-9s-2w. T.D. 9,165 ft.; sdtrkd.; drlg. sdy. sh. 6,215 ft.
Gulf Oil Corp.'s No. 42 Arnaudet, Sec. 47-9s-2w. Drlg. sh. 6,557 ft.
Shell Oil Co., Inc.'s No. 8 Community. T.D. 7,454 ft.; P.B. 7,404 ft.; comp.; no ga.
Shell Oil Co., Inc.'s No. 9 Community. T.D. 110 ft.
Stanolind O. & G. Co.'s No. 116 Crowley O. & M. Co., Sec. 48-9s-2w. Cg. 7,196 ft.
Stricker-Pharis et al's No. 1 Gulf fee, Sec. 45-9s-2w. 16-in. csg. 60 ft.

Lafitte—Jefferson Parish

Texas Co.'s No. 12 Rigolets Cooperative Fur Co., Sec. 28-17s-24e. Drlg. sh. 4,930 ft.
Texas Co.'s No. 14 Lafitte, Sec. 20-17s-24e. T.D. 4,599 ft.; P.B. 3,404 ft.; sdtrkd T.D. 10,089 ft.; 7-in. csg. 10,089 ft.; 1. P. 706 B.P.D.; ¼-in. ck.
Texas Co.'s No. 5 Madison Realty Co., Sec. 17-17s-24e. 10¾-in. csg. 1,876 ft. drlg. sh. 8,630 ft.
Texas Co.'s No. 4 Marrero, Sec. 21-17s-24e. T.D. 10,308 ft.; 7-in. csg. 9,902 ft. retstg.

La Fourche Crossing—La Fourche Parish

Mikton Oil Co.'s No. 2 Martinez, Sec. 132-15s-17e. 11¾-in. csg. 2,687 ft.; drlg sh. 4,902 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp.'s No. 11 La Fourche Basin Lv. Dist., Sec. 11-18s-25e. Drlg. sh. 1,067 ft.

Lake Pelto—Terrebonne Parish

Texas Co.'s No. 10 State, Sec. 7-23s-18e. Drlg. 4,900 ft.
Texas Co.'s No. 28 State, Sec. 7-23s-18e. T.D. 5,752 ft., salt; P.B. to sdtrk.; 1 salt 5,486 ft.; T.D. 5,490 ft.; 7-in. csg. 5,480 ft.; perf. csg. 5,410-60 ft.; I.P. 342 B.P.D.; ¼-in. ck.
Texas Co.'s No. 29 State, Sec. 18-23s-18e. Drlg. sh. 5,020 ft.
Texas Co.'s No. 30 Lake Pelto, Sec. 7-23s-18e. Drlg. sh. 4,837 ft.

La Pice—St. James Parish

Shell Oil Co., Inc.'s No. 1 Lebermuth & Israel. T.D. 11,318 ft.

La Place—St. James Parish

Pan American Prod. Co.'s No. 1 Godchaux Sugars, Sec. 97-11s-7e. Loc.

New Iberia—Iberia Parish

Wm. Helis' No. 7 Sabatier, Sec. 54-12s-7e. 7-in. csg. 2,205 ft.; T.D. 3,090 ft.; P.B. 2,995 ft.; 5½-in. csg. 3,010 ft perf. csg. 2,872-82 ft.; P.B. 2,905 ft.; W.O.
Wm. Helis' No. 7 J. E. Schwing, Sec. 56-12s-7e. T.D. 8,850 ft.; P.B. 7,840 ft.; T.D. 8,850 ft.; P.B. 8,025 ft.; went back into old hole; P.B. and sdtrk.. T.D. 8,240 ft.; run csg.
Wm. Helis' No. 8 Schwing, Sec. 56-12s-7e. T.D. 892 ft.; 6-in. csg. 846 ft.
Lisbon-Iberia Oil Corp.'s No. 6 Gulf-Schwing, Sec. 25-12s-7e. T.D. 3,780 ft.; S.D.
Texas Co.'s No. 2 Bryant, Sec. 25-12s-7e. R.U.
Texas Co.'s No. 14 Duke, Sec. 26-12s-7e. Drlg. 2,610 ft.
Texas Co.'s No. 3 Schwing, Sec. 71-12s-7e. T.D. 8,454 ft.; 7-in. csg. 7,848 ft.; I.P. 574 B.P.D.; ¼-in. ck.
Texas Co.'s No. 1 H. Perry Walet, Sec. 2-12s-7e. Drlg. sd.&L. 7,422 ft.

North Crowley—Acadia Parish

Humble O. & R. Co.'s No. 5 Ohlentorst. Sec. 34-8s-1e. T.D. 9,080 ft.; rec. S.W. 9,066-71 ft.; P.B.
Humble O. & R. Co.'s No. 6 Ohlenforst. Sec. 34-8s-1e. Drlg. sh. 8,329 ft.

Paradis—St. Charles Parish

Texas Co.'s No. 3 L.L.&E. Paradis. Sec 8-14s-20e. 10¾-in. csg. 1,448 ft.; drlg. sd.&sh. 6,146 ft.

Plumb Bob—St. Martin Parish

Texas Co.'s No. 13 St. Martin Ld. Co., Sec. 21-8s-7e. Drivihg piling.

Port Barre—St. Landry Parish

Gulf Oil Corp.'s No. 17 Wilson-Broach. Sec. 4-6s-5e. T.D. 4,861 ft.; P.B. 2,061 ft.; sdtrkd.; drlg. sd. 5,293 ft.
McDannald Oil Co.'s No. 2 Futral, Sec. 20-6s-5e. Drk.
Pan American Prod. Co.'s No. 5 Garland, Sec. 4-6s-5e. T.D. 5,080 ft.; 5½-in. csg. 5,064 ft.; perf. csg. 4,830-35 ft.; flwd. oil; went dead.
Y. D. Spill's No. 1 Gaudet, Sec. 4-6s-5e. S.D. 4,700 ft.
Texas Co.'s No. 27 Botney Bay, Sec. 4 6s-5e. Bldg. rd.
Westgate-Greenland Oil Co.'s No. 1 Jeansenne, Sec. 20-6s-5e. T.D. 5,286 ft.; 7-in. csg. 5,286 ft.; perf. csg. 5,274-84 ft.; I.P. 410 B.P.D.; ¼-in. ck.

Potash—Plaquemines Parish

Humble O. & R. Co.'s No. 41 Orleans Sec. 14-18s-15e. T.D. 4,430 ft.; P.B.; sdtrkd.; drlg. sd. 4,410 ft.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp.'s No. 4-A Orleans Lv. Bd. Sec. 7-19s-17e. Drlg. sd. 7,867 ft.
Gulf Oil Corp.'s No. 9 State QQ, Sec. 18-19s-17e. Drlg. sh. 2,030 ft.

Sorrento—Ascension Parish

Sorrento Synd.'s No. 1 L. L. Bernard, Sec. 27-10s-4e. S.D. 8,004 ft.; P.B. to 6,575 ft.; S.D.

South Houma—Terrebonne Parish

Shell Oil Co., Inc.'s No. 4 Peters, Sec. 72-18s-18e. T.D. 11,344 ft.; abd.

South Jennings—Jeff Davis Parish

Stanolind O. & G. Co.'s No. 1 Doherty, Sec. 15-10s-3w. 7-in. csg. 9,573 ft.; T.D. 9,700 ft.; perf. csg. 9,513-18 ft.; I.P. 55 bbl. dist., 5 hrs.; 5/32-in. ck.

Starks—Calcasieu Parish

W. T. Burton's No. 1 Industrial Lbr. Co., Sec. 29-9s-1w. Drlg. 7,750 ft.

Valentine—La Fourche Parish

Wm. Helis' No. 5 Valentine Sugars, Inc., Sec. 2-17s-20e. 10¾-in. csg. 1,632 ft.; T.D. 7,845 ft.; P.B. 6,965 ft.; 7-in. csg. 6,990 ft.; tstd. oil&S.W.; made sqz. job; drld. out 7,020 ft.; 5-in. csg. 7,020 ft.; perf. csg. 6,977-83 ft.; tstd. gas, some oil; S.D.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co.'s No. 11 Manhattan Ld. Co., Sec. 35-21s-30e. Drlg. sh. 6,830 ft.

Vermilion Bay—Iberia Parish

Texas Co.'s No. 4-B Vermilion Bay, Twp. 16s-5e. R.U.

Villa Platte—Evangeline Parish

Continental Oil Co.'s No. 5 Fontenot, Sec. 46-3s-2e. Drk.
Continental Oil Co.'s No. 4 Hattie Haas, Sec. 44-3s-2e. T.D. 10,393 ft.; tstg.
Continental Oil Co.'s No. 7 Ludeau-Haas Sec. 45-3s-2e. T.D. 8,991 ft.; I.P. 175 B. P.D.; ¼-in. ck.
Continental Oil Co.'s No. 6 Opelousas, Sec. 47-3s-2e. Drk.
Continental Oil Co.'s No. 3 Adam Tate Sec. 40-4s-2e. Drk.
Continental Oil Co.'s No. 2 W. L. Tate, Sec. 48-3s-2e. Cg. 10,496 ft.
Continental Oil Co.'s No. 1 T. E. Vidrine, Sec. 48-3s-2e. Drlg. sh. 10,118 ft.
Continental Oil Co.'s No. 4 Vidrine, Sec. 34-3s-2e. Drlg. sh. 8,990 ft.
Danciger O. & R. Co.'s No. 1 J. E. Vidrine, Sec. 1-4s-2e. Drlg. sh. 2,830 ft.

West Gueydan—Vermilion Parish

Magnolia Pet. Co.'s No. 4 Ferguson, Sec. 5-12s-2w. Drlg. sh.&L. 5,720 ft.

West Lake Verret—St. Mary Parish

Shell Oil Co., Inc.'s No. 4 Jeanerette T.D. 8,869 ft.; D.S.T. 8,853-59 ft.; rec. 22 B.O., 10 min.

White Castle—Iberville Parish

Shell Oil Co., Inc.'s No. 15 Wilbert. Cg. sd. 6,232 ft.

Woodlawn—Jeff Davis Parish

Union Sulphur Co.'s No. 4 Miller, Sec. 7-9s-5w. Drlg. sh. 7,530 ft.
Union Sulphur Co.'s No. 4 Miller, Sec 7-9s-5w. R.U.
Union Sulphur Co.'s No. 1 E. A. Norton Sec. 12-9s-5w. T.D. 9,478 ft.; perf. csg. 9,300-10 ft.; I.P. 265 B.P.D.; 12/64-in. ck.
Woodlawn Oil Corp.'s No. 1 Hebert, Sec 1-9s-6w. T.D. 9,543 ft.; 7-in. csg. 9,170 ft.; perf. csg. 9,189-93 ft.; flwd. S.W. and dist.

S. LOUISIANA WILDCATS

Acadia Parish

Tri Parish Drillers, Inc.'s No. 1 Paul Stag, Sec. 4-7s-1w. M.I. rig.

Allen Parish

Housh & Thompson's No. 1 Ind. Lbr. Co., Sec. 1-4s-5w. 10¾-in. csg. 1,600 ft.; S.D. 9,456 ft.

Assumption Parish

Falcon-Seaboard Drlg. Co.'s No. 1 Alex Simoneaux, Sec. 43-12s-13e. R.U.
Shell Oil Co., Inc.'s No. 1 C. S. Eellis, Sec. 9-16s-14e. Drlg. sh.&L. 11,425 ft.

Avoyelles Parish

Joe F. Belt's No. 1 Thompson & Katz Sec. 23-2n-5e. T.D. 6,175 ft.; T. Wlx. 6,137 ft.

Beauregard Parish

Atlantic Ref. Co.'s No. 1 Lutcher Moore Lbr. Co., Sec. 13-5s-12w. Loc.
Atlantic Ref. Co.'s No. 1 Lutcher Moore, Sec. 22-3s-11w. Loc.
Atlantic Ref. Co. No. 1 Rice Ld. & Lbr. Co., Sec. 22-3s-11w. Loc.
California Co.'s No. 2 Long Bell Lbr Co., Sec. 12-5s-10w. T.D. 10,055 ft.; 7 in. csg. 6,000 ft.; T.D. 10,600 ft.; abd.

Calcasieu Parish

E. W. K. Andrau et al's No. 1 W. W. Blackman est., Sec. 20-9s-6w. Drk.
C. L. Arnette's No. 1 Arthur Welch, Sec. 19-10s-12w. 10¾-in. csg. 130 ft.; T.D. 395 ft.; S.D.

Cameron Parish

Phillips Pet. Co.'s No. 1 Miami Corp. Sec. 11-14s-6w. T.D. 7,138 ft.; rmg. to straighten hole.
Superior Oil Co.'s No. 1 State, Calcasieu Lake, Twp. 14s-9w. Loc.

Iberia Parish

Plymouth Oil Co. et al's No. 1 Lynch McHugh, Sec. 13-12s-10e. 10¾-in. csg 2,519 ft.; T.D. 8,083 ft.

Jeff Davis Parish

Continental Oil Co.'s No. 1 Niblett, Sec. 1-11s-5w. 13⅜-in. csg. 2,085 ft. -
H. M. Naylor's No. 1 Acadia Dev. Co., Sec. 12-10s-2w. Loc.

La Fourche Parish

Gulf Oil Corp.'s No. 1-B Bowie Lbr. Co., Sec. 69-15s-19e. Loc.
Tide Water Asso. Oil Co. No. 1 Delta Farms, Inc., Sec. 6-17s-23e. T.D. 11,852 ft.; run csg.

Orleans Parish

W. T. Burton's No. 1 L.&N.R.R., Sec. 18-11s-15e. T.D. 10,394 ft.; 5½-in. csg. 10,274 ft.; S.D.
W. T. Burton's No. 2 State-Lake Pontchartrain, Twp. 10s-13e. R.U.

Plaquemines Parish

Gulf Oil Corp.'s No. 1-D Buras Lv. Dist., Sec. 6-23s-31e. T.D. 8,641 ft.; 9⅝-in. csg. 8,204 ft.

Rapides Parish

Gulf States Expl. Co.'s No. 1 Dunnam & Robinson, Sec. 69-4n-3w. Drlg. sh. 4,602 ft.
Rantex Pet. Corp.'s No. 1 Mathews, Sec. 6-1n-1e. Cg. sh. 7,200 ft.
Smith & Aarnes' No. 1 Eota Realty Co., Sec. 12-4n-3e. Drk.

St. Bernard Parish

Gulf Ref. Co.'s No. 4 State-R.R. (Lake Borgne), Twp. 12s-15e. 9⅝-in. csg. 8,161 ft.; T.D. 10,632 ft.; P.B. 9,700 ft.; rmd. to 9,658 ft.; lost core bbl.; P.B. sdtrkd. 8,912 ft.; T.D. 10,528 ft.; 7-in. csg. 10,494 ft.; hole cleaned; S.D. for repairs.

St. Landry Parish

Pure Oil Co. et al's No. 1 E. M. Boagni, Sec. 41-6s-4e. 10¾-in. csg. 1,276 ft.

St. Martin Parish

Wm. Helis' No. 1 Rycade Oil Co., Sec 33-9s-7e. T.D. 8,899 ft.; sdtrkd. 7,666 ft.; T.D. 7,676 ft.

St. Mary Parish

Perry S. Cooney No. 1 A. W. Allain, Sec. 46-13s-9e. S.D. 2,600 ft.
Texas Co.'s No. 1 State West Cote Blanche Bay, Twp. 16s-7e. Loc.

Terrebonne Parish

Barnsdall Oil Co.'s No. 1 Nelson, Sec. 2-21s-11e. 10¾-in. csg. 2,767 ft.; drlg. L. rk. 8,461 ft.
Continental Oil Co. et al's No. 1 Peters, Sec. 32-19s-15e. 13⅜-in. csg. 1,987 ft.; T.D. 12,080 ft.; abd.

Vermilion Parish

Louisiana Ld. & Expl. Co.'s No. 1 Heirs of Webster Est., Sec. 17-15s-1e. R.U.
Texas Co.'s No. 1 Vermilion Par. Sch. Bd., Sec. 16-13s-4e. T.D. 9,923 ft.; 7⅝ in. csg. 9,918 ft.; T.D. 10,595 ft.; fsg

TEXAS

Week Ended January 6

GULF COAST FIELDS

Anchor—Brazoria County

Humble O. & R. Co.'s No. 1 R. H. Carr. Blk. 62. R.U.
Humble O. & R. Co.'s No. 1 Crockett, J. de Jesus Valderas Sur. Loc.
Humble O. & R. Co.'s No. 1 Galznik & Taylor, J. de Jesus Valderas Sur. Drlg. sh. 6,470 ft.
Humble O. & R. Co.'s No. 1 M. W. Mettler, J. de Jesus Valderas Sur. 13⅜-in. csg. 944 ft.; 9⅝-in. csg. 7,139 ft.; T.D. 10,617 ft.; tstd. S.W. and oil 10,578-85 ft.; sqzd. perf.; perf. csg. 10,490-94 ft.; flwg. 25 B.F.P.H.; ¼-in. ck.; 15 to 18 per cent S.W.
Glenn McCarthy's No. 1 Neidringhaus, J. Bradley Sur. R.U.
Glenn McCarthy's No. 1 Ida M. Salmon and John Muma, Geo. Robinson Sur. 9⅝-in. csg. 6,860 ft.; T. Frio 8,820 ft.; T.D. 10,756 ft.; perf. csg. 9,808-20 ft.; tstg.

Old Ocean—Brazoria County

Harrison & Abercrombie's No. 8 Armstrong, Polly & Chance Sur. R.U.
Harrison & Abercrombie's No. 7 Bernard River Ld. Dev. Co., C. Breen Sur. Drlg. sh. 7,630 ft.
Harrison-Abercrombie's No. 3 Larsen, C. Breen Sur. Drlg. sdy. L. 5,520 ft.
Stanolind O. & G. Co.'s No. 1 Giles, C. Breen Sur. 9⅝-in. csg. 7,047 ft.; drlg. sd.&sh. 10,123 ft.
Sun Oil Co.'s No. 3 Borsodi, C. Breen Sur. 13⅜-in. csg. 1,515 ft.; 9⅝-in. csg. 7,020 ft.; drlg. sh. 10,086 ft.
Sun Oil Co.'s No. 4 McCampbell, C. Breen Sur. R.U.

Seabreeze—Chambers County

Sun Oil Co. No. 2 Hoffman, T.&N.O. Sur. No. 131. T.D. 8,400 ft.; W.O.C.
Sun Oil Co.'s No. 1 Samuelson & Whitney, T.&N.O. Sur. 131. M.I.M.

Turtle Bay—Chambers County

Stanolind O. & G. Co.'s No. 2 State, Tr. 39. 16-in. csg. 115 ft.; 5½-in. csg. 6,637 ft.; perf. csg. 6,635-37 ft.; swbg.; S.O.

Garwood—Colorado County

Davis & Co., Inc., No. 1 J. R. McLane. I.&G.N. Sur. 41. Cg. sd. 10,358 ft.

Big Creek—Fort Bend County

Merrimac Oil Corp.'s No. 1 George, B. Wickson Sur. (SW. Flank). Spd. and S.D.

Rosenberg—Fort Bend County

Humble O. & R. Co.'s No. 1 Skripka, C. N. Simpson Sur. Loc.

Caplen—Galveston County

Sun Oil Co.'s No. 2 Zinn & Forman, S. F. Hughes Sur. 9⅝-in. csg. 1,988 ft. drlg. sh. 6,288 ft.

League City—Galveston County

Phillips Pet. Co.'s No. 1 Brittnacher, S F. Austin Sur. T.D. 10,348 ft.; P.B. 9,135 ft.; perf. csg. 8,712-17 ft.; tstg.
Phillips Pet. Co. No. 1 Dr. O. Patton (1 mi. E of production). Perf. csg. 9,177-97 ft.; flwd. S.W.; sqzd. perf.; C.O.
Phillips Pet. Co.'s No. 2 J. S. Rice est., J. M. Perry & Austin Sur. S.D. 11,411 ft.
Phillips Pet. Co.'s No. 3 Stewart Title Guaranty Co., S. F. Austin Sur. R.U.
Phillips Pet. Co.'s No. 4 Stewart Title Guaranty Co., S. F. Austin Sur. 10¾-in. csg. 3,520 ft.; 7⅝-in. csg. 9,510 ft.; T.D. 11,270 ft.; well blew out; running wild, making gas and dist.

Bammel—Harris County

H. M. Harrell's No. 1 Graves, C. Walters Sur. Loc.

Clear Lake—Harris County

Humble O. & R. Co.'s No. 2-D Humble-West, G. B. McKinstry Sur. T.D. 5,839 ft.; tstg.

Friendswood—Harris County

Humble O. & R. Co.'s No. 2 J. T. Moore, A. Whitlock Sur. Drlg. sh. 5,610 ft.
Humble O. & R. Co.'s No. 21 West Prod. Co., T. Choate Sur. T.D. 6,039 ft.; W. O.C.

Clam Lake—Jefferson County

Shell Oil Co., Inc.'s No. 9 McFaddin, S. A. Pace Sur. R.U.

Lovells Lake—Jefferson County

Humble O. & R. Co.'s No. 13 Broussard, M. Grange Sur. T.D. 7,811 ft.; 5½-in. csg. 7,804 ft.
Humble O. & R. Co.'s No. 18 Broussard, C. Hillebrandt Sur. Drlg. 1,220 ft.
Humble O. & R. Co.'s No. 7 Jefferson Ld. Co., C. Hillebrandt Sur. T.D. 7,683 ft.; 7-in. csg. 7,605 ft.
Humble O. & R. Co.'s No. 3-B Steinhagen, A. O. Donnell Sur. R.U.
Shell Oil Co., Inc.'s No. 3 Pleasant, C. Hillebrandt Sur. Cg. 7,720 ft.
Stanolind O. & G. Co.'s No. 2-A Steinhagen, Wm. Carr Sur. T.D. 7,818 ft.; perf. csg. 7,716-19 ft.; tstg.
Stanolind O. & G. Co.'s No. 4-A Steinhagen, Wm. Carr Sur. T.D. 7,823 ft.; sdtrkd.; drlg. sh. 7,234 ft.

South China—Jefferson County

Titanic Oil Co.'s No. 1 Guitermann, G. T. Gaylor Sur. 12. T.D. 8,000 ft.; sd. 7,491-7,520 ft.; 7-in. csg. 7,615 ft.; perf. csg. 7,512-20 ft.; I.P. 10 B.P.H.; 9/64-in. ck.

Esperson—Liberty County

General Crude Oil Co.'s No. 9 Davis, D Kokernot Sur. Drlg. sh. 8,071 ft.
General Crude Oil Co.'s No. 7-B Esperson, A. McNeil Sur. T.D. 7,860 ft.; P.B. and sdtrkd.; drlg. sh. 7,608 ft.
General Crude Oil Co.'s No. 10 B. Esperson, A. McNeil Sur. Drlg. sh.&L. 7,590 ft.

Hull—Liberty County

Gulf Oil Corp.'s No. 115 Phoenix Dev. Co., J. Devore Lge. (SE flank deep test). 9⅝-in. csg. 5,904 ft.; T.D. 8,166 ft.; salt.

Martha—Liberty County

Stanolind O. & G. Co.'s No. 2 Flowers, I.&G.N.R.R. Sur. Drk.

Segno—Polk County

J. K. Dorrance's No. 6-A Wing, I.&G.N. Sur. T.D. 8,160 ft.; tstg.
Gulf Oil Corp.'s No. 4 Quinn, A. Morales Sur. R.U.
Gulf Oil Corp.'s No. 24 Wing, I.&G.N. Sur. 14. Drlg. sh. 7,020 ft.
Gulf Oil Corp.'s No. 27 Wing, I.&G.N. Sur. 15. Drlg. sh. 8,030 ft.
Humble O. & R. Co.'s No. 20-BX Kirby Lbr. Co., P. Garcia Sur. Drlg. sh. 6,720 ft.

Spurger—Tyler County

Republic Prod. Co.'s No. 30 fee, N. Hurd Sur. Cg. 7,610 ft.
Republic Prod. Co.'s No. 31 fee, N. Hurd Sur. Drlg. sh. 2,730 ft.

Hilje—Wharton County

Texas Co.'s No. 2 Peters, E.T.R.R. Sur., Sec. 101. Loc.

GULF COAST WILDCATS

Brazoria County

Fabriquze et al's No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Bryan Mound). M.I.M.

Hamman Explin. Co.'s No. 1-B Darrington State Prison Farm, F. Bingham Sur. Loc.

D. M. Hill's No. 1 Max Bader, Wm Smeathers Lge. Loc.

Glenn McCarthy's No. 1 E. W. K. Andrau, H.T.&B. Sur. 5. 10¾-in. csg. 3,512 ft.; drlg. sdy. sh. 10,326 ft.

Glenn McCarthy's No. 2 Houston Farm Dev. Co., J. Perry & E. Austin Sur. 7. 10¾-in. csg. 3,402 ft.; cg. sd.&sh. 10,262 ft.

Titanic Oil Co.'s No. 2 S. E. Allen, J. G. and W. McNell Sur. R.U.

Chambers County

Geo. Anderson et al's No. 1 Veruna Lawrence, W. D. Smith Sur. Drlg. sh. 5,560 ft.

Colorado County

Cockburn Oil Corp. No. 1 R. W. Ferrs H. Chrisman Sur. Loc.

Fort Bend County

Fred Browning's No. 1 Kroescher, W Bartlett Sur. 10¾-in. csg. 1,128 ft.; T. D. 8,011 ft.; S.D.

H. C. Cockburn's No. 1 G. W. Burkett Bundieck Sur. Loc.

Magnolia Pet. Co.'s No. 1 G. H. Huntington, Henry Scott Sur. T. Cckfld. 7,556-60 ft.; T.D. 8,698 ft.; perf. lnr. 8,662-72 ft.; rec. S.W.; perf. csg. 8,246-50 ft.; flwg. 2 bbl. dist. per hr.; 9/64-in. ck.

Ray Ranger's No. 1 Sugarland Industries, John Foster 2½ Lge. Drlg. sh. 3,067 ft.

Superior Oil Co.'s No. 1 A. P. George, Wiley Martin Sur. T.D. 8,010 ft.; abd.

Temple Hargrove et al's No. 1 Sugar Ld. Ind., A. Alcorn Sur. R.U.

Galveston County

Continental Oil Co.'s No. 1 Lobit-Cherardi, Perry & Austin Sur. T.D. 9,839 ft.; fsg.

Standard Oil Co.'s No. 1 State, Sec. 234. R.U.

Sun Oil Co.'s No. 1 State, Sec. 178. Dredge canal.

Harris County

Cities Service Oil Co.'s No. 1 Perry V. Cook, Wm. Slayer Sur., Sec. 60. Loc.

Gulf Oil Corp.'s No. 1 H. H Roberts, A. Roberts Sur. Drlg. sd. 7,363 ft.

N. W. Hunter et al's No. 1 Green's Bayou Homesites, S. C. Hiroms Sur. R.U.

R. A. Irwin et al's No. 1 C. H. Grisbee, John Picture Sur. Drk.

John Mayo et al's No. 1 A. A. Sharpe, S. G. Haynil Sur. 10¾-in. csg. 670 ft.; T.D. 6,500 ft.; abd.

Jackson County

Wheelock & Collins' No. 1 Four Way ranch, Young Coleman Sur. Drlg. sh. 3,460 ft.

Jefferson County

Falcon Seaboard Drlg. Co.'s No. 1 Powell, W. V. Vacocy Lge., Lot 6. T.D. 9,264 ft.; abd.

Merrimac Oil Corp.'s No. 1 State, Tr. 72, 50 ft. due E of Harwell's abd. hole W.O. drk.

Rowan Drlg. Co.'s No. 1 Toney Tortorias, H.&T.C. Sur. Loc.

Liberty County

Hebert & Smith's No. 1 W. E. Boyt, H. &T.C.R.R. Sur. R.U.

Matagorda County

Gulf Stream Oil Co.'s No. 1 G. W. Zipprian, Luke Lessassier Sur. S.D. 3,340 ft.

Texas Gulf Prod. Co.'s No. 1 Gulf Tex. Oil Co., Ira Ingram Sur. Drk.

Van M. Vincent's No. 1 J. F. McNabb Est., E. R. Wightman Lge. Loc.

Montgomery County

H. C. Cockburn et al's No. 1 Bender, Montgomery Co. Sch. Ld. and De Crow Sur. Loc.

Continental Oil Co.'s No. 1 Bender est., Montgomery Co. Sch. Ld. Sur. Loc.

David B. MacDaniel's No. 1 Hattie O. Baldwin, Walker Co. Sch. Ld. Sur. 10¾-in. csg. 1,230 ft.; T.D. 8,900 ft., est.; D.S. stk.

Sturm & Womack's No. 2 Foster est. Abraham Pevehouse Sur. Drlg. sh. 5,725 ft.

West Conroe Oil Corp.'s No. 1 R. L. Caifee, H. N. McDillon Sur. Loc.

T. J. Wood & J. R. Martin's No. 1 H P Fultz, Wm. C. Clark Sur. T.D. 5,034 ft.; abd.

San Jacinto County

Harrison & Abercrombie's No. 1 Lockin Wm. Hays Sur. Drlg. sdy. sh. 6,756 ft.

Tyler County

J. Z. Werby et al's No. 1 Hayes, J. C. Boyett Sur. T.D. 4,530 ft.; abd.

Waller County

Hunter & Mayos et al's No. 1 Humble fee, Wm. Hooper Sur. Spd.

Washington County

Mount Selman Oil Co. No. 1 Fritz Fuelberg, W. Lightfoot Sur. S.D. 4,510 ft.

Wharton County

O. C. Garvey et al's No. 1 Stockton, S. P. Middle Sur. Loc.

J. F. Hutchins' No. 2 Borden, E. M. Cox Sur. A-14. Drlg. sh. 2,725 ft.

Dr. T. M. Neal No. 1 fee, Elisha Flack Sur. Loc.

S. W. TEXAS WILDCATS

Aransas County

Continental Oil Co.'s No. 1 St. Charles Co., R. D. Blassman Sur. 18⅝-in. csg. 290 ft.; T.D. 8,387 ft.; S.D. until 1940.

Bastrop County

C. R. Franklin's No. 1 Oscar McDonald, Martha Barker Sur. T.D. 1,070 ft.; run csg.

Marts & Beaven's No. 1 J. E. Ferguson, Jas. Doyle Sur. Drlg. clk. 1,815 ft.

Bee County

Humble O. & R. Co.'s No. 1 W. T. Ruckman, Thos. Maucha Sur. Drlg. sh. 2,320 ft.

Mills Bennett Prod. Co.-Anderson-Prichard Oil Corp.'s No. 1 D. E. Robinson, J. M. Uranga Sur. T. Wlx. sd. est. 7,531 ft.; cd. sd.&sh. good O.&G. odor; 14-min. D.S.T. 7,541-51 ft. rec. 15 ft. oil; 245 lb. W.P.; will core 10 ft. and make D.S.T.; 5-min. D.S.T. 7,620-60 ft. tstd. 62 lb. W.P.; rec. 225 ft. gas-cut mud; well tried to blow out at 7,921 ft.; stk. D.S.; sdtrkd.; T.D. 4,701 ft.; 5½-in. csg. 4,701 ft.; perf. csg. 4,467-72 ft.; flwg. S.W.,, small amt. oil; ¼-in. ck.; W.P. 800 lb.

Fred Wood's No. 1 C. A. Mauldin, J. Poitevent Sur. 1. R.U.

Bell County

G. P. Shelton et al's No. 1 Nelson, Michael Griffin Sur. S.D. 1,208 ft.

Bexar County

L. Beauchamp et al's No. 1 J. J. Brown R. F. Shield Sur. 19. Loc.

Heller Pet. Co.'s No. 1 Wildmann, Juan Sanchez Sur. 34. S.D. 448 ft.

Joe Noake's No. 1 San Antonio Sub. Irrg. Farm, W. Miller Sur. 180. S.D. 250 ft.

Philtop O. & G. Co.'s No. 1-A Cassin, Fernando Rodriquez Sur. S.D. 2,095 ft.

J. A. Tarver's No. 1 Florence Lam, Manuel de Luna Sur. 3. 6⅝-in. csg. 1,205 ft.; T.D. 1,692 ft.; cd. bkn. sh. 1,638-92 ft.; S.S.O.; bailed est. 10 bbl. oil P.D. before sanding up; S.D.

Blanco County

E. L. Nixon's No. 3 Crist, John McClenechen Sur. 94. S.D. 1,075 ft.

Burleson County

H. Y. Barnett's No. 1 Giesenschlag, J. W. Hollingsworth Sur. Drlg. 710 ft.

Caldwell County

Kean & Williamson's No. 1 E. E. Rector, J. Roberts Sur. S.D. 120 ft.

J. D. Monk's No. 1 Williams, J. Bowman Sur. Drlg. clk. 2,728 ft.

Calhoun County

Coronado Corp. No. 1 K. Welder, Hidalgo Sur., 3 mi. SE Seadrift. "Tight well", reported to be tstg. 5½-in. csg. set close to bttm.; no information.

De Witt County

Atlantic Ref. Co.'s No. 1 Pearl Conwell, Chas. Lockhart Sur. R.U.

Duval County

W. L. Catlin et al No. 1 Louis Escapule, J. Poitevent Sur. 73. R.U.

Continental Oil Co.'s No. 1-C Clara Driscoll, Santa Rosalia gr. Drlg. sh. 2,950 ft.

Cox & Hamon's No. 1 Hoffman-Gorman, B.S.&F. Sur., Sec. 119. 10¾-in. csg. 35 ft.; T.D. 3,309 ft.; 5½-in. csg. 2,241 ft.; perf. csg. 2,014-35 ft.; I.P. 100 B. O.P.D.; jetted with gas.

Hiawatha O. & G. Co.'s No. 1-A Herberger, Santos Flores gr. Drlg. sh. 1,876 ft.

Landreth Prod. Co.'s No. 1 Caballero, J. Poitevent Sur. 281. M.I.M.

Mills Bennett Prod. Co. and Stanolind O. & G. Co.'s No. 2-A Ira Yates, E. N. Gray Sur. 224. T.D. 4,213 ft.; abd.

H. D. Rogers' No. 1 Rossen, R. F. Neeley Sur. 48. S.D. 1,200 ft.

Shell Oil Co., Inc.'s No. 1 F. Lopez, J. S. Givens Sur. 372. Drlg. sh. 3,796 ft.

Stewart & Nye's No. 1 W. P. Peters, B. S.&F. Sur. 791. Cg. 2,520 ft.

Falls County

J. Shaunfield's No. 1 Barganier, J. M. Graham Sur. Bda. L.; S.S.O.; T.D. 1,188 ft.; recmtd. csg.; W.O.; cmt. failed to hold.

Frio County

Holland Oil Co.'s No. 1 Anna Wittine. Dan T. Price Sur. 6. Drlg. sh. 2,280 ft.

Gonzales County

H. F. Sears and Joe Dixon's No. 1 Martindale Mtge. Co., C. H. Jaeger Sur. S.D. 229 ft.

Guadalupe County

A. J. Hollifield's No. 1 A. J. Day, Jas. Hinds Sur. Cg. L. 2,830 ft.

Knute Evjen et al's No. 1 W. C. Brawner, J. D. Pickens Sur. S.D. 2,384 ft. 5½-in. csg. 2,300 ft.; reacd.

F. D. Spratt's No. 1 Wm. Zuchi, Claiborne Rector Sur. 38. S.D. 710 ft.

Wellington Oil Co. of Dela.'s No. 1 Wells, H.&T.C.R.R. Sur. 5. Drlg. sdy. sh. 2,163 ft.

Hidalgo County

Brinkocter Oil Co.'s No. 1 Daskam hrs. of Miguel Cano, Porc. 45. R.U.

Humble O. & R. Co.'s No. 1 T. A. Ogg, Rio Bravo subd. Drlg. sh. 3,920 ft.

Jim Hogg County

Daubert & Achning's No. 1 A. Vela, Joseph Odom Sur. 572. M.I.M.

Goldruss Drlg. Co.'s No. 1 I. R. Gutierrez, C. Gutierrez Sur. 164. T.D. 3,223 ft.; tstg.; 5½-in. csg. 3,217 ft.; swbd. dry; pmpd. 7 bbl., 6 hrs.; tstg.

Goldruss Drlg. Co.'s No. 2 Gutierrez, Tyler Tap. R. R. Sur. 163. R.U.

Humble O. & R. Co.'s No. 3 Mestena O. & G. Co., Sec. 388, Fowler & Rankin subd., Santa Rita pasture. Drlg. 2,376 ft.

C. A. Nibert et al's No. 1, Yeager Sur. 20. S.D. 1,316 ft.

Jim Wells County

Austin Pet. Co. No. 1 H. M. Reed (8 mi. NW Orange Grove), J. Poitevent Sur. Cmtd. surf. pipe 190 ft.; S.D. 210 ft.

DeLange & Rowe's No. 1 R. A. Wolters, Casa Blanca gr. Loc.

Henshaw Bros. et al's No. 1 San Miguel, S.K.&K. Sur., Sec. 219. R.U.

W. L. Hinds' No. 1 Wm. Adams, T.&N. O.R.R. Sur. 19 5-in. csg. 4,722 ft.; T. D. 4,878 ft.; perf. csg. 4,670-75 ft.; tstd. S.W.

H. H. Howell's No. 1 Clara Driscoll, La Anima Sola gr. Drlg. sh. 3,530 ft.

Karnes County

Clyde Eckols' No. 1 J. M. Newberry, Carlos Martinez Sur. T.D. 3,002 ft.; 5½-in. csg. 3,002 ft.; perf. csg. 2,942-48 ft.; tstd. dry gas.

Gar Oil Co.'s No. 1 R. L. Barnett, Alex C. Hunter Sur. S.D. 2,350 ft.

Kendall County

C. M. Dewey's No. 2 Seidensticker, R Davis Sur. No. 20. S.D. 835 ft.

Kimble County

A. L. Bierschwale's No. 1 F. W. Kraeke, Sur. 366. S.D. 1,012 ft.

Kinney County

Cooper Gas Co.'s No. 1 L. L. Farr, Geo. L. Bledsoe Sur. 835. R.U.

La Salle County

Louis Yeager's No. 1 fee, A.B.&M. Sur. 53. Cg. 660 ft.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. T. Glen Rose L. 6,600 ft., drlg. L. 7,110 ft.

Live Oak County

H. F. Baker's No. 1 Herring, Stephen Hays Sur. Drlg. sh. 1,448 ft.

Geo. M. Church's No. 1 Wuthrich, John Turner Sur. 71. T.D. 1,212 ft.; abd.

L. W. Stieren's No. 3 Lange, Thos. Adams Sur. T.D. 1,497 ft.

McMullen County

W. C. McBride, Inc.'s No. 1 Nueces Ld & Lvstk. Co., Jas. McGrain Sur. T.D. 1,829 ft.; abd.

C. D. Scarborough No. 1 First Natl. Bk. of Rosebud, Jas. Garner Sur. S.D. 1,680 ft.

Medina County

T. J. Tapp's No. 1 Bendele, F. Sauer Sur. 117. S.D. 205 ft.

York Pet Co.'s No. 1 Kate Smith, Marie Ihnken Sur. 11. Drlg. 743 ft.

Milam County

W. H. Lawrence et al's No. 1 J. F. Bartek, Jose De Pena Sur. S.D. 1,653 ft.

Nueces County

John Manley et al's No. 1 Ruegg, Geo. H. Pauls subd. of Driscoll ranch. Loc.

H. J. Porter et al's No. 1 A. R. Knetig, DeLores A. & I. Co. Sur. 145. 10¾-in. csg. 508 ft.

Fred W. Shield et al's No. 1 Meinholdt, M. L. De Herrera gr. 10¾-in. csg. 1,185 ft.; T.D. 5,588 ft.; rmg.

Southern Minerals Corp.'s No. 1 J. S. Jolly, M. L. de Herrera gr., Sec. 29. R.U.

Southern Minerals Corp.'s No. 1 Robt Whitleff, Rincon De Corpus Christi gr. Drlg. sh. 3,600 ft.

Refugio County

C. L. Norsworthy's No. 1 B. J. Foy, Jas. Fagan Sur. R.U.

Norsworthy Prod. Co.'s No. 1 Wood, John Sinnott Sur. T.D. 6,508 ft. (cor.); S.D.

San Patricio County

Tom Graham's No. 1 Fannie Coates, A. B.&M. Sur., Abst. 307 (E. Mathis field). 10¾-in. csg. 1,073 ft.; T.D. 5,830 ft.; abd.

Nueces Royalty Co.'s No. 1 Ragsdale, G T. Taber Sur. 10¾-in. csg. 750 ft.; cg. 4,810 ft.

Southern Minerals Corp.'s No. 1 Sam Sparks, John Bowen Sur. Drlg. sh. 3,520 ft.

Fred Wood et al's No. 1 C. E. Hart, Wm G. Burgess Sur. Drk.

Starr County

Hebert Aid's No. 1 Raimrez, Jose F Garza Porc. 71. T.D. 750 ft.; abd.

Clopton, Mitchell et al's No. 1 F. W. Seabury, J. A. Falcon, Porc. 80. 8¼-in csg. 88 ft.; T.D. 2,757 ft.; S.D.; S.W. sd.; 5½-in. csg. 1,401 ft.; perf. csg. 1, 328-33 ft.; tstg.; flwg. small amt. of oil per day.

C. L. Foster's No. 1 H. Garza, Juan Salinas, Porc. No. 71. S.D. 100 ft.

Interstate Minerals, Inc.'s No. 1 Green & Manning, J. J. Garza Falcon Porc. 81. T.D. 1,732 ft.; 7-in. csg. 1,155 ft.; S.D.

Lynes & Robertson's No. 1 Villareal, C. C.S.D.&R.G.N.G.R.R. Sur. 241. Loc.

Magnolia Pet. Co.'s No. 2 Yzaquirre, La Sal Colorado gr. Cg. sh. 6,500 ft.

Sun Oil Co.'s No. 1 Rodriguez, Santa Teresa gr. Cg. sh. 4,239 ft.

Travis County

J. H. Gray's No. 1 Washington, Jose Antonio Navarro Sur. S.D. 1,703 ft.

Val Verde County

Joiner Oil Co. et al's No. 1 Clyde Sellers. Drlg. bkn. L. 1,480 ft.

Victoria County

Barnsdall Oil Co.'s No. 1-A Keeran, M De Leon Sur. T.D. 7,608 ft.; perf. csg 5,550-52 ft.; flwd. gas and dist.

W. S. Boyle's No. 1 P. C. Meyer, Victoria townsite Sur., Blk. 3. T.D. 4,788 ft.; perf. csg. 4,776-79 ft.; swbg.; showing wash wtr. and some oil.

Mayo and Renwar Oil Co.'s No. 1 Bayer, Garcia Sur. Spd.

Mayo, Thompson Drlg. Co.'s No. 1 Ragsdale, V. Garcia Sur. R.U.

Transwestern Oil Co.'s No. 1-G McFaddin, Jules Vairin Sur. T.D. 6,710 ft.

Webb County

Amsco Ref. Co.'s No. 1 R. Y. Vasquez, Morris & Cummings Sur. No. 1089. Loc.; T.A.

Cash & Reynolds' No. 1 Row & Bonham, D. F. Felps Sur. 1698. T.D. 2,518 ft.; abd.

Circle Oil Co.'s No. 1 W. R. Hughes, G. C.&S.F.R.R. Sur. 1527. R.U.

F. J. Hynes' No. 3 Bruni, Thos. Burtrang Sur. 2184. T.D. 2,855 ft.; abd.

O. W. Killam's No. 9 Bruni, J. V. Borego gr. Drlg. sh 975 ft.

O. W. Killam's No. 64 Bruni, M. H. Rodriquez Sur. 446. Drk.

Sinclair Prairie Oil Co.'s No. 1 Callaghan Ld. & Cattle Co., B.S.&F. Sur. 585. Loc.

Tide Water Asso. Oil Co. No. 7 Bruni, Blk. 7, M. Arispe gr. (deep test Bruni field). T.D. 8,959 ft.; well blew out; hole bridged: stk. D.S.; prep. to P.B. and test approx. 5,600 ft.; perf. D.P. 5,636-45 ft. and 5,621-31 ft.; swbg.

Williamson County

H. C. Lefors' No. 1 H. J. Priesmeyer, Jehu Bevil Sur. 56. S.D. 1,107 ft.

Taylor Ref. Co.'s No. 1 C. F. Hurta, P. Coursey Sur. S.D. 1,275 ft.

Wilson County

W. D. Moore et al's No. 1 Lorenz, Morris May Sur. S.D. 75 ft.

Zapata County

J. P. Martin et al's No. 1 Serapio Vela, El Grullo gr. S.D. 3,045 ft.

Ralph Ogden's No. 1 Dodier, El Socorro gr., Sh. 4. Drlg. rk. 1,737 ft.

WEST TEXAS WILDCATS

Crane County

Gulf Oil Corp.'s No. 5 M. B. McKnight, Sec. 1, Blk. 21-B, P.S.L. Sur. Drlg. 5,635 ft.

Gulf Oil Corp.'s No. 12 Waddell, Sec. 30, Blk 26-B, P.S.L. Sur. 12-in. 532 ft.; S.S.O. 3,215-20 ft.; drlg. 3,265 ft.

Crockett County

Commercial O. & G. Co.'s No. 1 O. W. Parker, Sec. 83, Blk. 1, I.&G.N. Sur. S.D.O. 2,382 ft.; sulf. wtr.

Continental Oil Co.'s No. 1 Todd unit, SW¼ Sec. 30, Blk. W.X., C.G.&S.F. Sur.; Ordovician test. Topped Simp. at 6,040 ft.; sul. wtr. at T.D. 7,010 ft.; P.B. to 6,620 ft.; swbg. 4,500 ft.

Kimberlin's No. 1 J. W. Robbins, Sec. 4, Blk. B, G.C.&S.F. Sur. S.D.O. 1,880 ft.

Moore Bros.' No. 1 Henderson, Sec. 51 Blk. O.P., G.C.&S.F. Sur. C.O.; U.R. 815 ft.

Stanolind Oil & Gas Co.'s No. 4 Todd, Section 30, Blk. W.X., G.C.&S.F. Sur., 330 ft. S of Continental's deep test. Gas sd. 1,194-1,217 ft.; prep. comp. from 1,217-25 ft.; flwd. 33.5 B.O. in 3 hrs. through csg.

Stanolind O. & G. Co.'s No. 7 Todd-A, 990 ft. from S line, 330 ft. from W line, Sec. 67, Blk. UV, G.C.&S.F. Sur. Loc.

Ector County

R. H. Gill's No. 1 J. E. Parker, Sec. 12, Blk. 45, T.&P. Sur. W.O.R. 145 ft.; T.D.

M. A. Grisham et al's No. 1 R. B. Cowden, 600 ft. from N and E lines, Sec. 4, Blk. 45, Twp. 1n (deep test). Loc.

I. T. I. O. Co.'s No. 1 Johnson, Sec. 34, Blk. 43, Twp. 1s, T.&P. Sur. Drk. and R.U.R.

Landreth Prod. Corp. and Shell Oil Co., Inc.'s No. 1 J. L. Johnson, Sec. 43, Blk. 43, Twp. 1s, T.&P. Sur. Swbd. 21 B.O. 14 hrs. after acd. at 4,264-76 ft.; drlg. 4,322 ft.

Stanolind O. & G. Co.'s No. 1 W. F. Cowden, SW¼ Sec. 4, Blk. 43, Twp. 1n, T.&P. Sur.; deep-lime test. T. Yates sd. 2,790 ft.; drlg. 2,967 ft.

Gaines County

Oil Well Drlg. Co.'s No. 1 R. E. Sikes,

Sec. 10, Blk. 25-A, P.S.L. Sur. R.U. and S.D.

Standolind O. & G. Co.'s No. 1 T. S. Riley, Sec. 11, Blk. H, D.&W. Sur. Shot 4,762-4,864 ft.; C.O.; bailed 1 bbl. hourly before shot; swbg.

Hockley County

Geo. P. Livermore's No. 1 R. D. Glimp, Sec. 8, Blk. X, P.S.L. Sur. W.O.S.T.; T.D. 4,802 ft.

Irion County

W. S. Kelly's No. 1 Yates, Conrad Poppe Sur. 730. S.D. 205 ft.

Loving County

J. E. Whitesides' No. 1 fee, Sec. 24, Blk. 76. M.I.M.

Lynn County

R. H. Gill's No. 1 W. H. May, NE¼ Sec. 259, Blk. L, B.S &F. Sur.; Honolulu Oil Co. farmout. Loc.

Guthrie Lake Oil Co.'s No. 1 Mary L. Shoe, Sec. 20, Blk. 8, E.L.R.R. Sur., 800-ft. test. S.D.R.; T.D. 15 ft.

Mitchell County

Ewing & Hanes' No. 1 G. I. Grable, Sec 195, Blk. 3, H.&G.N. Sur.; 1,800-ft. test. Spdg.

Sinclair Prairie Oil Co.'s No. 1 E. E. Erwin, Sec. 1, Blk. 5, H.&T.C. Sur. Drlg. 1,530 ft.

Pecos County

R. L. Baker's No. 1 White & Baker, Sec. 86, Blk. 194, G.C.&S.F. Sur. Spd. and S.D.

Humble O. & R. Co.'s No. 1 Young, Sec. 33, Blk. 10, H.&G.N. Sur. Drlg. 2,935 ft.

B. McCandless and General Crude Oil Co.'s No. 1 Virginia W. Crockett, Sec. 5, Blk. 110, T.C.R.R. Sur. T. Ellenburger 4,401 ft.; tstg. est. 6,000,000 cu. ft. gas after acid; T.D. 4,479 ft.

Phillips Pet. Co.'s No. 1 Sarah Byrne, Sec. 114, Blk. 11, H.&G.N. Sur.; lost hole; skdd. 50 ft. N.; drlg. 595 ft.

Sides' No. 1 Blackstone-Slaughter-Lackey, 250 ft. from S line, 1,100 ft. from W line, Sec. 20, Blk. 129, T.&S.L. Sur. Loc.

Skelly Oil Co.'s No. 1 J. S. Masterson (Ordovician test), Sec. 101, Blk. 10, H. &G.N. Sur. Drlg. 1,700 ft.

Stanley Thompson's No. 1 Elsinore Cattle Co., Sec. 54, Blk. D, G.C.&S.F. Sur. Drld. by 7,073 ft.; 500 ft. S.W. in hole; S.D.O. 7,342 ft.

Superior Oil Co.'s No. 1 V. W. Crockett-Continental Oil Co., Sec. 7, Blk. 110, T.C.R.R. Sur. Drlg.

H. C. Walker's No. 1 Alva Reed, Sec. 20, Blk. 10, H.&G.N. Sur. W.O.C. 1,524 ft., T.D.

Reeves County

T.A.T. Oil Co.'s No. 1 U. G. Orenderff, Sec. 10, Blk. 59, P.S.L. Sur. Drlg. 890 ft.

Scurry County

Coffield & Guthrie's No. 1 Reiter, Sec. 155, Blk. 97, A.T.&T.C. Sur. Drlg. 3,498 ft.

Terrell County

E. M. Thomasson's No. 1 Bates, Sec. 31, Blk. 1, H.&G.N. Sur. S.D. 1,560 ft.

Tom Green County

Johnson's No. 2 Rape, Sec. 2, Blk. 1, H.&T.C. Sur. S.D.O. 370 ft.

Dan Short's No. 1 J. G. Davidson, 2,161 ft. from SL, 2,493 ft. from NW cor. L. P. Moore Sur. S.S.O.&G. 2,660-65 ft.; drlg. 2,890 ft.; C.O. 2,895 ft., T.D.

Ward County

Gulf Oil Corp.'s No. 5 Wristen, Sec. 18, Blk. 5, H.&T.C. Sur.; scheduled Ordovician test. Drlg. 2,820 ft.

Magnolia Pet. Co.'s No. 2-43 Sealy, Sec. 43, Blk. F, G.M.M.B.&A. Sur. W.O. 2,952 ft., T.D.; making 69,000,000 cu. ft. gas; incr. amt. oil; prep. perf. lnr. 908-3,018 ft.; P.B. 2,900 ft.; C.O. 3,018 ft.

Merry Bros. & Perini's No. 1 Bird Hayes, Sec. 148, Blk. 34, H.&T.C. Sur. Drlg. 1,335 ft.

Yoakum County

L. E. Hults' No. 1 Willard, 1,980 ft. from E line, 660 ft. from N line, Sec. 805, Blk. D, Gibson Sur. Loc.

Sloan & Zook and T. N. Sloan's No. 1 J. E. Fitzerald, Sec. 22, Blk. D, Gibson Sur., extreme NE cor. of county. 7-in. csg. 4,812 ft.; S.D.O. 5,150 ft.; M. I.M. to dpn.

TEXAS PANHANDLE

Deaf Smith County

Uscan's No. 1 Farwell, Sec. 18, Blk. 3, X. Sur. C.O. 5,650 ft.

Lipscomb County

Phil O'Neil's No. 1 Jacob Koch, NW SW Sec. 539, T.&T.C.R.R. Sur. S.D. 1,100 ft.

Ochiltree County

James R. Macon et al's No. 1 W. R. Norris, SW SE Sec. 212, Blk. 48, H.&T.C. Sur. T.D. 6,274 ft.; test sec. at 5,000 ft.; est. 6,000,000 cu. ft. gas on D.S.T.; tstg.; bailing 6,274 ft.; unloaded csg. at well and preparing to test increasing shows of oil and gas; prep. test.

Potter County

Lee Whitaker's No. 1 D. Pavillard, Sec. 101, Blk. 2, A.B.&M. Sur. Fish out; S.D. 915 ft., csg.

Sherman County

Hagy, Harrington & Marsh's No. 1 W. Freeman, Sec. 46, Blk. 42, G.H.&H. Sur. P.B. 2,909 ft.; S.D.O.

I.T.I.O.'s No. 1 S. C. Bryant, NW¼ Sec. 369, Blk. 1-T, T.&N.O. Sur. Fsg. tools 2,511 ft.

E. C. TEXAS WILDCATS

Anderson County

R. H. Williamson's No. 1 O. G. Rogers, Wm. Greenwood Sur., 6 mi. SW of Elkhart. Fsg. 5,432 ft.

Angelina County

Ginter Bros.' No. 7 Copes hrs., J. Morin Sur., 3 mi. E of Diboll. S.D. 1,810 ft.

Bowie County

W. E. Neill's No. 1 Lewis Fort, L. Peters Sur., 2½ mi. NE Hooks. Drlg. 340 ft.

Camp County

Harry Moss' No. 1 Joe Venters, S. Wright Sur., 3 mi. SE Leesburg. O.W. D.D.; O.T.D. 5,710 ft.; R.U. to dpn. to 7,500 ft.; drlg. 6,626 ft.

Cherokee County

C. C. Lanier's No. 1 W. O. Reagan, W. T. Smith Sur., 2½ mi. E of Mixon. Drk.

Falls County

A. H. Bell's No. 2 Garrett, J. Sanchez Sur., NE of Lott. W.O.C. 1,226 ft.

R. D. Salisbury No. 1 W. M. Shankle, J. A. Manchaca Sur., 1½ mi. NE Chilton. P.B. 1,103 ft.; S.D.; W.O.

Fannin County

C. Newburn's No. 1 A. G. Allen, M. Caldwell Sur., 7 mi. NE of Banham. Laying wtr. lines.

Hill County

Carter-Bowland's No. 1 J. J. Atchison estate, E. Carroll Sur., 5 mi. W of Hillsboro. S.D. 85 ft.

Houston County

J. C. Wynne et al's (Shell Oil Co., Inc.) No. 1 G. E. Dorsey, M. Sallas Sur., 2½ mi. S of Percilla; E 102 ac. of tr.; 10,000-ft. test. D.S.T. 8,541-76 ft.; rec mud cut with gas and oil; fsg. core bbl. at 9,884 ft.

Kaufman County

W. H. McGee's No. 1 Rutland Savings Bk., John Baker Sur. Loc.

T. G. Shaw, Tr.'s No. 1 Angus Wynne, B. S. Newman Sur., 8 mi. E Kaufman, lower Trinity test. M.I.M.

Leon County

Lone Star Gasoline Co.'s No. 2 A. Jones, J. M. H. Jones Sur., Buffalo gas area. Tstd. 275,000 cu. ft. gas and some dist. at T.D. 6,258 ft.; est. 334,000 cu. ft. gas per day; tstg.

Limestone County

Peyton Bros.' No. 1 Harris, P. Varella Sur. P.B. to 4,495 ft.; sdtrkg. hole 4,320 ft.

Murray Samuell and Zephyr Oil Co.'s No. 2 Cannon Barron, NE part of 320-acre tract in W. G. McKenzie Sur, half mile NE of pool opener. Drlg. 500 ft.

J. J. Tyrell's No. 1 A. G. Easterling, J. L. Chavert Sur., 11 mi. E of Groesbeck Drlg. 3,307 ft.

McLennan County

T. M. Smart's No. 1 J. W. Mann, C. O'Campo Sur., 4 mi. S of Waco. Drlg. 1,035 ft.

Navarro County

C. F. Carter's No. 1 Allen Eden, M. Shire Sur., 2 mi. NE of Angus. Tstg. 1,201 ft.

Guy Sitton's No. 2 R. D. Fleming, John Harris Sur., 450 ft. E of No. 1 dry hole. Rng. csg. 1,549 ft.

Red River County

Dave Flesch's No. 1 Bailey, J. Robbins Sur., 1 mi. W of Bagwell. S.D. 3,415 ft.

Kansas-Oklahoma Pet. Corp.'s No. 1 R. H. Ringwald, A. Moore Sur., 3 mi. W of Manchester. S.D. 1,000 ft.

Rusk County

Jeff Bolton's No. 1 Hall Wood, J. I. Sanches Sur., 2½ mi. NW of New Salem. Lost circ. and skd. rig to start new hole; T. Wdbne. with sat. at 4,145 ft.; rng. csg. to test.

A. O. Whittington's No. 1 Kangerga Bros., Ign. Castro Sur., 9½ mi. N and slightly E of Pirtle. S.D. 80 ft.

Smith County

Shell Oil Co., Inc.'s No. 1 H. Campbell, P. Lively Sur., 1½ mi. N of Chapel; 9,500-ft. test. T. Paluy 5,533 ft.; T. Glen Rose 5,818 ft.; cg. 8,287 ft.

Sun Oil Co.'s No. 1 E. B. Huddle, Wm Dickerson Sur., 2 mi. S of discovery dist. producer in Chapel Hill area Drlg. 4,700 ft.

Trinity County

Gossage et al's No. 1 First Natl. Bnk., B. F. Wright Sur., S of Trinity. R.U. and S.D.

NORTH TEXAS WILDCATS

Archer County

L. B. Burns' No. 1 H. Wilmut, Lot 13, G.N. Smith Sur., Abst. 393 (4,400-ft. semiwildcat). Flwd. 150 B.O. in 3 hrs., 4,376-96 ft.; showed S.W.; P.B. 4,384 ft.; trying to s.o. wtr.

W. B. Hamilton's No. 5 C. E. Graham, J. D. Young Sur. A-1249. 6⅝-in. 5,205 ft.; P.B. 4,930 ft.; perf. csg. 4,750-70 ft.; treated 1,000 gal.; tstg.

G. E. Kadane & Sons' No. 1 Jos. Hemmi B, Sec. 61, Clark & Plumb, Blk. 3. Drlg. 3,560 ft.

Waldo E. Stephens et al's No. 1 Hattie B. Adae, SE part of Blk. 7, Palo Pinto Co. Sch. Lds., 3 mi. SE of Griffin pool. Set 10-in. 100 ft.; S.D.O. 5,100 ft.

Clay County

Shell Oil Co., Inc.'s No. 1 M. L. Henderson, 6,000-ft. test, in Blk. 2605, T. E.&L. Sur. S.S.O. 3,419-36; S.S.O. 3,507-19 ft.; S.S.O. 3,573-85 ft.; S.S.O. 3,655-57 ft.; cg. 3,657 ft.

Cooke County

Big Indian Oil Dev. Co.'s No. 1 M. P. Morton, SW cor. Sec. 1, E.T.R.R. Sur., Abst. 365. 6⅝-in. 2,509 ft.; S.S.O. 2,509-17 ft.; tstg. (new pool).

Heydrick et al's No. 1 W. Franklin, A. Rodiquez Sur., Abst. 851. Spd. and S.D.

Cottle County

J. E. Burns et al's No. 1 J. E. Moss, Sec. 5, Blk. L, A. Forsythe Sur. Jnkd. 225 ft.; skd. 20 ft. S; S.D. 1,823 ft.

Denton County

Jones Drlg. Co.'s No. 1 H. K. Armstrong, L. Moore Sur., Abst. 824. S.S.O. 1,626-32 ft.; flwd. 19 bbl. in 11 hrs.; tstg.

Foard County

Foster Pet. Corp.'s No. 1 E. M. Gamble, 4,500-ft. test; E. 180 ac. of S½ Sec. 13, Blk. A, H.&T.C. Sur. Had gas sd. 2,300-29 ft.; est. 5,000,000 cu. ft.; T.D. 3,417 ft.; S.D. to run csg. and test gas sd. 2,300-29 ft.

Hardeman County

Carter & Taylor's No. 1 Norton, NW cor. 91-ac tr. in Blk. 3, Robt. Young Sur., 16 mi. N of Quanah. S.D. 256 ft.

Jack County

Buffalo Oil Co.'s No. 1 Riddle, S. L. Clark Sur.; Abst. 1944, 3,100-ft. test. Spud and S.D.

J. B. Cooper and Paul P. Steed's No. 1 Mathis, J. H. Nesmith Sur., Abst. 1562. Loc.

Hanlon-Buchanan, Inc.'s No. 1 A. T. Smith, NE cor. Sec. 2, S.P.R.R. Sur., Abst. 2175. S.D.O. 2,100 ft.

Pitzer & Wests No. 1 Sloan, Sec. 2786, T.E.&L. Sur. Rng. 8-in.; cg. dry. sd. 2,770-80 ft.; S.D. 3,840 ft.

Montague County

W. H. Gant and Continental's No. 1 J. L. Brown, Sec. 58, E.T.R.R. Sur. 6⅝-in. 6,843 ft.; brkn. sdy. L. S.O. 6,843 ft.; treat. 8,000 gal. acd. (new pool); test showed O.&G. 7,036-56 ft.

Wm. J. Payne's No. 1 T. M. Baker, NW¼ Lot 42, W. J. Wells Sur., Abst. 844, 5,000-ft. test. Loc.

Wilbarger County

King Oil Co.'s No. 1 Waggoner U, Sec. 5, H.&T.C. Sur., Blk. 17. Drlg. 4,458 ft.

Rogers & Cavin's No. 1 A. P. Morris, Sec. 3, Blk. 14, SW Harrold. Drlg. 4,609 ft.

Wise County

W. F. Holifield et al's No. 1 J. Redell, Rebecca Coleman Sur., Abst. 155, 2 mi. E of Bridgeport. Moved off spdr.

H. M. Muse's No. 1 F. F. Kaker, Blk. 16, Montagorda Co. Sch. Ld. Pits.

Young County

Burns Oil Co. (Floyd Scott) No. 1 W. J. Rhoades, SW B. F. Kutch Sur. Abst. 1333. Drlg. 3,585 ft.

Cosden Pet. Corp.'s No. 1 W. E. Steele est., NE part of R. M. Burton Sur., Abst. 8, 7 mi. SE Graham. 4,200-ft. test. Drlg. 3,340 ft.; tight hole.

H. W. Dyer's No. 1 M. G. Cheney, M. L. Terry Sur., Abst. 1261. Drlg. 600 ft.

L. A. Long's No. 1 J. S. Williams, 3,000 ft. test in NE part of S. H. James Sur Abst. 1465. 8¼-in. csg. 1,710 ft.; S.S.O. 1,720-30; tstg.

K. R. March's No. 1 Ed. Burton, NE cor Blk. 99, J. A. True Sur., Abst. 1640 4 mi. SE Graham, 4,250-ft. test. Drlg. 2,450 ft.

A. T. Strong et al's No. 1 E. C. Stovall, Sec. 2946, T.E.&L. Sur. (4,800-ft. test). Drlg. 2,870 ft.

Taubert & McKee Drlg. Co.'s No. 1 Shanafelt, P. Pointevent Sur., Abst. 1309. 6⅝-in. 4,012 ft.; treating 2,000 gal. acid 4,437-4,500 ft.; P.B.; H.F.W. 4,398-4,410 ft.; R.U. spdr.

EAST TEXAS

(Border Counties)

Harrison County

M. & H. Oil Co.'s No. 1 Vaughn, A. P. Hope Sur. Drlg. sh. 1,910 ft.

Marion County—Other

A. F. Anding's No. 1 Duke Hart, M. G. Noll Sur. Drlg. clk. 1,870 ft.

Tom Bell's No. 2 Moseley, D. Lane Sur. T.D. 2,623 ft.; prep. tst.; set 6⅝-in. csg. 2,500 ft.

H. N. Binge's No. 1 W. P. Stiles, 950 ft. S, 4,900 ft. E NW cor., M. G. Nail Sur. Set 10-in. csg. 42 ft.; S.D. 910 ft.

R. W. Cosby's No. 1 Stiles, J. G. Reeves Sur. Swbg.; T.D. 2,406 ft., sdy. sh.

M. D. Fitzwater's No. 1 Mrs. Mary Duncan, Jesse Fitzgerald Sur. T.D. 2,577 ft.; S.D.O.

J. D. Reynolds' No. 4-B Terry est., 1,900 ft. SL, 200 ft. EL, W. Coore Sur. R.U.

J. D. Reynolds' No. 5 Terry est., W. Coore Sur. T.D. 2,359 ft.; W.O.S.R.

Sanders & Wyckliffe's No. 1 W. P. Stiles, M. Noll Sur. Cg. 2,010 ft.

Marion County—Rodessa

Ark. Fuel Oil Co.'s No. 1 G. H. Barnes, 948 ft. S, 1,055 ft. E, NW cor., 283-ac. tr., Richardson Sur. Drlg. sh.&L. 4,978 ft.

Shelby County

W. H. Neel et al's No. 1 J. W. Hanson, C 64-ac. tr., A. Sanford Sur. M.I.M.

WEST CENTRAL TEXAS DISTRICT

Brown County

Shallow Oil, Inc.'s No. 1 S. M. Black, Wm. Ranch road, 7½ mi. SE Brownwood. S.D.R. 772 ft.

Wilson Oil Co., Inc., No. 1 M. Bowden, Sec. 138, W. E. Gilliland Sur. S.D.O. 2,100 ft.

Callahan County

Reeves' No. 1 Alexander, NE part of Sec. 12, E.T. R.R. Co. Sur. U.R. csg. 750 ft.

Coleman County

Kynaston-Culbertson-Culbertson & Bozeman No. 1 J. P. McCord, Sec. 158, J. W. Meeks Sur. S.D.O. 2,300 ft.

J. C. Ort's No. 1 Ernet Walker, SE cor. Hicks Sur. W.O.C. 700 ft.

E. B. Tinsley and C. C. Campen's No. 1 W. Webb, H. Odle Sur. 178. Drlg. 570 ft.

Concho County

Natural Resources Corp.'s No. 1 Armor, Sec. 105, Blk. 72, T.&N.O. Sur. R.U. to D.D.

Coryell County

W. E. Crews' No. 1 S. C. Blanchard, W part of Wm. H. King Sur., 2 mi. SW of Mound, 5,000-ft. test. Loc.

Eastland County

Butler & Horne and E. J. Keough's No. 1 L. Waters, Sec. 83, Blk. 3, H.&T.C. Sur. Loc.

R. R. Groce's No. 1 J. M. Rush, Sec. 130, Blk. 3, H.&T.C. Sur. S.D.O. 1,728 ft.

F. S. Holden's No. 1 J. F. Nichols, L. A. McDonals Sur., Abst. 829. Rng. csg. 3,087 ft.; S.S.O.

J. L. Reeves' No. 1 J. V. Parker, NW part of Wm. Van Norman Sur. Fsg. 3,077 ft.; S.S.O. 3,019-41 ft.; drlg. by tools 3,077 ft.

W. A. Stiles et al's No. 1 H. F. Duncan, Sec. 10, Blk. 2, H.&T.C.R.R. Sur. Pits.

Erath County

T. Gray's No. 1 C. Young hrs., NW cor. of Stephen Smith Sur., Abst. 682. M.I.R. 89 ft.

T. G. Jackson No. 1 J. W. Taylor, Prater Sur., Abst. 1029, 4 mi. NE of Desdemona. S.D.W.O. 2,400 ft.

J. F. Morissey et al's No. 1 R. J. Sikes, J. Hargrave Sur., 6 mi. N of Stephenville, 5,000-ft. test. Drlg. 601 ft.

Fisher County

S. and D. Daube's No. 2 Bennett, NE¼ Sec. 51, Blk. 2, H.&T.C. Sur. S.D. test lime 3,687-3,704 ft.; swbd. 28 B.O. and

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GIDDENS-LANE BUILDING -:- SHREVEPORT, LA.

4 B.W. daily at 3,640 ft.; T.D. 3,705 ft. S.D. 3,705 ft.; no test.

Haskell County

K. N. Nowels' No. 12 M. S. Pardue, SW cor. Sec. 1, S.F.I.W. Sur., 4½ mi. east Stamford. S.S.O. 2,235-52 ft.; drlg. 2,457 ft.

Jones County

Danciger Oil & Ref., Inc.'s No. 1 P. V. Nelson, SE¼ Sec. 186, B.B.B.&C. Sur., 4 mi. SE Stamford. Set surf. csg.

T. D. Humphrey's No. 1 H. C. Hall, SE Sec. 1, Blk. 17, T.&P. Sur., 5 mi. N of Hawley pool. U.R. 1,700 ft.

Keeler's No. 1 Radford, SE¼ Sec. 20, Blk. 4, H.&T.C.R.R. Sur. S.D.O. 1,800 ft.

Pet. Prod.'s No. 1 Roberts, NE¼ Sec. 36, Blk. 15, T.&P. Sur., link test between Lewis and Steffens pools. Prep. drill plugs in Bluff Creek sd.

W. F. Snebold's No. 1 J. Jeffreys, Sec. 7, Blk. 15, T.&P. Sur., 1½ mi. W of Sandy Ridge pool. Drlg. 1,810 ft.

Johnson County

Geo. C. Foster's No. 1 Pennington, C W 40 ac. of J. E. Pennington 247-ac. tr., ½ mi. SW of Cleburne; contract depth 3,500 ft. Loc.

Nolan County

Green & Owens' No. 1 Tipton, Sec. 43, Blk. 19, T.&P. Sur. Sat. from 5,135-38 ft.; swb. fsg. tools 5,171 ft.

Plymouth Oil Co. No. 1 F. M. McClure, Sec. 49, Blk. 23, T.&P. Sur., 8,000-ft. test. Top Ellenburger 6,965 ft.; sul. wtr.; U.R. 7,451 ft.

Palo Pinto County

J. Jones' No. 1 R. H. Gauldin, NW cor. Sec. 1743, T.E.&L. Sur. S.D.O. 1,210 ft.

Palo Pinto O. & G. Co.'s No. 1 F. A. Johnson, Sec. 61, Burleson Co. Sch Lds. T.D. 3,330 ft.; P.B. 3,227 ft.; S. D.O.

Parker County

Brown & Gardner Bros.' No. 1 Gilbert. T.&P. Sur., Abst. 1958. S.D.O. 3,837 ft.

Shackelford County

Georgian Oil Corp.'s No. 1 Black ranch, C NE¼ of T.E.&L. Sur. No. 390, 10 miles NE of Albany, Ordovician test. Fsg. 1,830 ft.

Jones-Stasney & Groover-Rose's No. 1 Winnie Wentz, Sec. 13, Blk. 3, H.& T.C. Sur. S.D. 3,199 ft.; S.S.O. 1,870-81 ft.

Stephens County

Pitzer & West and Brazos-Young Oil Corp.'s No. 2-B N. G. Price, SE cor. E½ SW¼ Sec. 67, B.A.L. Sur. Rng. csg. 3,976 ft.; est. 1,000,000 to 2,000,000 cu. ft. gas in L. 3,970-76 ft.; fsg. 3,976 ft.

Stonewall County

Shell Oil Co., Inc.'s No. 1 A. E. Smith,

(Continued on Page 103)

West Texas Fields

(Continued from Page 65)

the pool was acquired by Eastus and associates with intentions to drill deep Palo Pinto wells twinned by shallow King-sand wells. The indicated King-sand producer is the operators' first attempt, it being dry in the Palo Pinto and plugged back for completion attempts.

On the extreme southern edge of the field and as significant as the King-sand prospect is Owens-Snebold's No. 1 S. M. Swenson, NE S½ NW Section 163, B.B.B.&C. Survey. The test is cleaning out following a 500-gal. acid treatment in a prospective deeper zone some 40 ft. below the regular zone in the Palo Pinto lime. Testing is through perforations in casing from 3,195 to 3,205 ft. Recent production reports are lacking from the test; however, it was some time ago estimated good for 25 bbl. hourly. Completion of this test would add considerably to the Palo Pinto lime's value.

Shackelford County

In Shackelford County and seeking to again spread their large Cook pool, Roeser-Pendleton and Continental Oil Co. are drilling below 500 ft. at an edge test on the northwest side of the pool. The test is No. 1-B Cook, northwest 80 acres of a tract in Section 113, E.T. Survey. The new test is 880 ft. northeast of the No. 2-A Cool, completed 2 weeks ago for a new producing area west of the northern part of the pool.

Providing the final link between the Lewis and the Steffens pools of southeastern Jones County, Petroleum Producers Co.'s No. 1 McKeown, Section 36, Block 15, T.&P. Survey, has been estimated good for 200 bbl. daily from the Bluff Creek sand drilled from 1,855-74 ft.

A two-location east extension for the almost dormant Griffin pool in Jones County was seen when Lewis Production Co.'s No. 1 San Antonio Land Bank, Section 198, B.B.B.&C. Survey, flowed 59 bbl. of oil through casing in 1 hour. North of the Griffin pool and 4 miles southeast of Stamford, Danciger Oil & Refineries, Inc.'s No. 1 P. V. Nelson, wildcat located in the SE¼ Section 186, B.B.B.&C. Survey, has spudded and set surface casing.

A new wildcat test has been staked in Eastland County and 5 miles south of Cisco. It is Butler & Horne and E. J. Keough's No. 1 L. Waters, C NW SW Section 83, Block 3, H.&T.C. Survey. Contract depth is 3,350 ft. and production will be sought from the Ranger lime. Spreads in the 3,000-acre block have been taken by Iron Mountain Oil Co., Grady Vaugh, and others.

WEST TEXAS COMPLETIONS

(24-hour gages)

Andrews County

In the Fuhrman pool Sinclair Prairie Oil Co.'s No. 1-69 University, 4,275-4,312 ft., 828 bbl.

Dawson County

A wildcat, Ray Albaugh's No. 1 Hogg, dry and abandoned at 4,222 ft.

Ector County

In the Foster pool Atlantic Refining Co.'s No. 5 Henderson, 4,030-4,200 ft., 1,670 bbl. M.B.K. Drilling Co.'s No. 1-C Gist, 4,211-4,311 ft., 1,180 bbl. Continental Oil Co.'s No. 1-B Johnson, 4,210-4,310 ft., 1,361 bbl. Stanolind Oil & Gas Co.'s No. 40-A Cowden, 4,035-4,200 ft., 680 bbl. Stanolind Oil & Gas Co.'s No. 42-A Cowden, 4,168-80 ft., 612 bbl. Stanolind Oil & Gas Co.'s No. 43-A Cowden, 4,035-4,150 ft., 910 bbl. Stanolind Oil & Gas Co.'s No. 36-B Cowden, 4,026-4,215 ft., 633 bbl. Stanolind Oil & Gas Co.'s No. 23 Witcher, 4,112-4,200 ft., 978 bbl. Stanolind Oil & Gas Co.'s No. 16 Johnson, 4,060-4,215 ft., 390 bbl. In the Goldsmith pool Gulf Oil Corp.'s No. 241 Goldsmith, 4,143-4,228 ft., 1,299 bbl. In the Jordan pool Atlantic and Skelly's No. 5-E University, 3,520-3,680 ft., 209 bbl. Worsham's No. 5 Connell, 3,523-3,616 ft., 300 bbl. In the North Cowden pool, Stanolind Oil & Gas Co.'s No. 25 Roberts, 4,325-4,470 ft., 632 bbl. Tide Water Associated Oil Co.'s No. 1-B Smith-Collins, 4,024-4,155 ft., 815 bbl.

Gaines County

In the Seminole pool Amerada Petroleum Corp.'s No. 2 Auten, 5,196-5,358 ft., 384 bbl. In the Wasson pool Continental Oil Co.'s No. 4-45 Moore, 4,912-5,053 ft., 596 bbl.

Hockley County

In the Slaughter pool Stanolind Oil & Gas Co.'s No. 5-B Slaughter, 4,915-5,020 ft., 707 bbl. Western States Oil Corp.'s No. 1 Mallet Land & Cattle Co., 4,950-5,038 ft., 370 bbl.

Howard County

In the Snyder pool F.H.E. Oil Co.'s No. 3 Snyder, 2,690-2,848 ft., 197 bbl.

Lynn County

J. L. Baldridge's No. 1 Alamo Lumber Co., dry and abandoned at 4,450 ft.

Ward County

In the North Ward pool Mid-Continent Petroleum Corp.'s No. 4 Sealy, 3,044-46 ft., 3,906 bbl. In the Hutchins pool Gulf Oil Corp.'s No. 133 Hutchins, 2,489-2,748 ft., 1,855 bbl.

Yoakum County

In the Wasson pool Aloco Oil Co.'s No. 3 Greer, 4,945-6,203 ft., 1,016 bbl. Oloco Oil Co.'s No. 3-B Willard, 4,966-5,220 ft., 659 bbl. Magnolia Petroleum Co.'s No. 11 Kendrick, 5,060-5,140 ft., 854 bbl. Magnolia Petroleum Co.'s No. 5-867 Kendrick, 4,990-5,110 ft., 1,512 bbl. Osage Drilling Co.'s No. 2 Clawater, 5,040-5,235 ft., 1,144 bbl. Shell Oil Co., Inc.'s No. 4 Hensley, 5,036-5,280 ft., 254 bbl. Skelly Oil Co.'s No. 2 Kendrick, 5,146-5,150 ft., 1,275 bbl. Shell Oil Co., Inc.'s No. 9 Dora Roberts, 5,050-5,243 ft., 607 bbl. Tide Water Associated Oil Co.'s No. 2-A Kendrick, 4,980-5,110 ft., 933 bbl. Aloco Oil Co.'s No. 4 Mary Jordan, 4,990-5,200 ft., 764 bbl. Mid-Continent Petroleum Corp.'s No. 3 Comer, 4,960-5,170 ft., 1,250 bbl. Argo Oil Corp.'s No. 4-A J. G. Comer, 4,965-5,207 ft., 685 bbl. Magnolia Petroleum Co.'s No. 4 H. O. Mahoney, 4,980-5,215 ft., 1,060 bbl.

WEST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Brown County

Bruce's No. 1 Mauldin, Section 15, H.&T.C. Survey, junked and abandoned at 1,691 ft. L. H. Choate's No. 1 Howell, J. M. Harris Survey 784, dry and abandoned at 1,241 ft. Hart & Sons' No. 6-8 Richmond, M. Little Survey 40, 1,305-12 ft., 41 bbl.

Callahan County

R. C. Lanning's No. 1 Battle, M. Cherry Survey 4, dry and abandoned at 1,742 ft. Sprowles & Lenair's No. 1 Anthony, Section 56, L.A.L. Survey, dry and abandoned at 405 ft. L. A. Warren's No. 1 B. Clinton, M. Cherry Survey 4, dry and abandoned at 1,757 ft.

Comanche County

Brock's No. 1 Landreth, A. W. Sullivan Survey, Abstract 840, dry and abandoned at 400 ft.

Eastland County

Fox and associates' No. 10-B Weddington, Section 2054, T.E.&L. Survey, topped Mississippian 4,025 ft., topped Ellenburger 4,040 ft., slight shows oil from 3,910-14 ft. and 4,025-30 ft., dry and abandoned at 4,092 ft.

Jones County

Danciger Oil & Refining Co., Inc.'s No. 1 Davenport, Section 23, D.&D.A. Survey, dry and abandoned at total depth of 3,454 ft. Fain-MaGaha Oil Corp.'s No. 8 C. Lewis, Section 37, Block 15, T.&P. Survey, 1,924-28 ft., 318 bbl. in 19 hours. Guitar Trust's No. 5 fee, Section 44, Block 15, T.&P. Survey, 2,139-44 ft., 40 bbl. Humble Oil & Refining Co.'s No. 4 Graves, Section 41, Block 18, T.&P. Survey, 2,934-42 ft., 449 bbl., 6½ hours. Lewis Production Co.'s No. 20 Sayles, Section 6, Block 20, T.&P. Survey, 1,943-69 ft., 352 bbl. Sandy Ridge Oil Corp.'s No. 2 Altom, Section 33, Block 15, T.&P. Survey, 1,896-1,901 ft., 301 bbl., 18 hours.

Runnels County

Phillips Petroleum Co.'s No. 1 Fowler, Section 150, E.T. Survey, dry and abandoned at 1,414 ft.

Shackelford County

J. L. Hart's No. 3 Sanders, Section 586, T.E.&L. Survey, dry and abandoned at 576 ft. Martin & Sons' No. 6 Davis, Section 220, E.T. Survey, 1,712-17 ft., 39 bbl. Roeser-Pendleton and Continental Oil Co.'s No. 3-A-113 Cook, Section 113, E.T. Survey, 1,567-75 ft., 40 bbl. Sussex Oil Corp.'s No. 1-163 Dawson-Conway, Section 163, E.T. Survey, dry and abandoned at 1,323 ft.

Oklahoma Fields

(Continued from Page 81)

Dannenburg's No. 1 Vann, NE NE NW Section 36-17-10, wildcat in Creek County, failed to find production in Prue sand at 1,625-40 ft. and was dry and abandoned at 2,598 ft., total depth.

New wildcats: Johnson's No. 1 Florence, NW NE SW Section 2-3s-6w, south of the Woolsey pool, Stephens County, machine, shut down at 340 ft.; Vierson's No. 1 Ramsey, SW NW SW Section 26-6-4, Pottawatomie County, rig; R. M. Purcell and others' No. 1 Wolcott, NW NW NW Section 2-13-4, southeast of the Gessman pool, Lincoln County, building rig; Bryan Petroleum Co.'s No. 1 Ah-Sey, NE NW NE Section 34-14-7, southwestern Creek County, rigging up machine; Teavis and others' No. 1 Teter, NW NW SW Section 24-17-2e, northwestern Lincoln County, location; Dutton's No. 1 Main, SE NE NE Section 30-17-3e, rotary rig; Berry's No. 1 Slick, NW SW SE Section 24-18-4, between Broyles and March pools, Payne County, Layton-sand test, rigging up rotary tools; McLaughlin's No. 1 Harrington, C SW SE Section 26-9-25w, south of the Erick gas pool, Beckham County, set 8-in. pipe at 1,900 ft., total depth 2,040 ft., waiting on cement.

First Reports

Patsy Oil Co.'s No. 1 Caldwell, NE NW NE Section 16-5-3e, Byers pool, McClain County, drilling below 2,160 ft. Batson's No. 1 Williams, SW SW NE Section 20-4s-2w, Carter County, drilling below 1,725 ft.; Summitt Drilling Co.'s No. 1 Thompson, SE SW NW Section 18-10-11, Okfuskee County, drilling below 740 ft.; O'Mara's No. 1 Hudson, SW SW SW Section 1-11-8, Okfuskee County, location; Mid-Continent Petroleum Corp.'s No. 13 Ramsey, C S½ N½ NW Section 18-18-2e, Payne County, rigging up rotary tools; Portable Drilling Co.'s No. 1 Turner, SE NW SW Section 3-20-7, Pawnee County, rig; Indian Territory Illuminating Oil Co.'s No. 4 Canfield, NE SE SW Section 24-11-3w, Oklahoma County, location; Gulf Oil Corp.'s No. 9 Kelly, SW SW NE Section 10-1n-20w, Jackson County, drilling below 1,010 ft.; Badger's No. 1 well, NW NW NE Section 14-1n-20w, pits; Henry's No. 1 Henry, NW NW NW Section 15-1n-20w, set 7-in. pipe at 1,417 ft., waiting on cement.

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1939-1940 High	1939-1940 Low	Week ended Jan. 6 High	Week ended Jan. 6 Low	Week ended Jan. 6 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
74½	50	56½	55¼	56½	Amerada Corp.	788,675	N.P.	50cQ	1-31-40	$2.00	$2.07	$3.04	78	55	111⅞	51⅛
24⅞	18⅛	22	20⅞	21½	Atlantic Refining	2,663,999	$25	25cQ	12-15-39	1.00	1.40	3.51	27⅝	17¾	37	18
21½	10¼	15¼	14¾	15	Barber Asphalt Co.	390,223	$10	25c	11-17-39		—.85	1.91	23¾	12⅛	43⅜	10⅛
19½	11⅛	13⅜	12⅜	13⅛	Barnsdall Oil Co.	2,250,344	$5	15c	12-9-39	1.00	1.26	.85	21⅝	10¼	35¼	10
9⅞	6½	8	7⅝	7¾	Consolidated Oil Corp.	13,751,846	N.P.	20cQ	2-15-40	.80	.55	1.48	10¾	7	17⅞	7
31½	19⅞	25	23½	24½	Continental Oil of Delaware	4,682,581	$5	25cQ	12-26-39	‖1.00	1.10	2.98	35¾	21¼	49	24
9⅜	4½	6⅞	6	6⅝	Houston Oil (new)	1,098,618	$25	....	10-17-30		.83	.94	9¾	5	17⅝	4¾
20¼	10	12⅞	11¾	12½	Lion Oil Refining	435,815	N.P.	25cQ	12-23-39	1.00	2.09	2.17	25½	15⅝	34	12½
18	11⅛	16⅜	15½	15½	Mid-Continent Petroleum	1,857,912	$10	35c	12-1-39	.60	.56	2.86	22⅝	12¼	35⅜	14
14⅞	8¾	10⅜	9⅝	10⅜	Mission Corporation	1,379,245	$10	40c	12-15-39	1.00	1.04	1.31	17¾	10⅝	34	15
15½	5⅝	9¾	8¾	9⅛	National Supply	1,155,517	$10	....	12-22-37	..	—.79	4.90	23	12½	41⅜	17⅝
10½	6	7⅝	6⅝	7⅛	Ohio Oil Co.	6,563,377	N.P.	20c	12-15-38	.20	.25	1.30	14⅞	8⅞	22⅞	8
11⅞	7	8¼	7½	8	Pacific Western Oil	1,000,000	N.P.	40c	12-19-39	.50	1.22	1.39	15⅞	10¼	29¾	11¾
8¾	5	7⅛	7	7⅛	Pan American Pet. & Trans.	4,702,945	$5	....	12-21-37	....	.08	1.18	9¼	6¼	17⅛	7
46½	31¼	41⅜	40⅝	40⅝	Phillips Petroleum	4,449,052	N.P.	50cQ	12-1-39	‖2.00	2.03	5.42	44⅜	27¼	64	30½
24	17⅛	21½	20½	21½	Plymouth Oil Co.	1,006,200	$5	35cQ‡	12-31-39	1.40	2.59	2.85	25⅝	15	29⅞	13
11¾	6⅛	9⅛	8⅜	9⅛	Pure Oil Co.	3,982,031	N.P.	25c	12-20-39	....	.38	2.15	13½	8¼	24⅝	8¾
10¼	6⅝	8⅜	7⅞	8	Richfield Oil Corp.	4,010,000	N.P.	50c	12-18-39	.50	.51	.35	9⅜	5	6½	4½
24⅝	15½	20	19	19	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	12-15-39	1.00	1.52	1.97	27½	15½	54⅛	16
17¼	9⅞	13⅛	12¼	12¼	Shell Union Oil	13,070,625	N.P.	25c	12-20-39	.70	.72	1.44	18⅜	10	34⅜	14⅞
29½	15½	22¼	20⅜	21¾	Skelly Oil	995,349	$15	25c	1-30-40	1.00	2.27	6.07	34¾	18½	60⅝	26½
15⅛	10¼	12½	12	12⅛	Socony-Vacuum	31,206,071	$15	25cSA	9-15-39	.50	1.29	1.82	16⅜	10¾	23¼	13
33⅝	24¼	26⅛	25	25⅞	Standard Oil of California	13,004,153	N.P.	25cQ	12-15-39	1.40	2.22	3.17	34⅞	25⅛	50	27⅛
30	22¾	27¾	26¼	27¼	Standard Oil (Indiana)	15,272,020	$25	50c†	12-15-39	1.00	1.82	3.66	35½	24¾	50	26½
53½	38	46½	44¼	46	Standard Oil of New Jersey	26,618,065	$25	75c¶	12-15-39	¶1.50	2.86	5.64	58⅜	39¾	76	42
66	45⅜	59¾	58½	59¾	Sun Oil	2,316,484	N.P.	25cQ	12-15-39	1.00	1.07	3.86	65½	45	77½	44½
3⅝	1⅜	2½	2⅛	2½	Superior Oil Corp.	1,388,979	$1	10c	12-28-38	.10	.24	.32	4¼	1⅜	7¾	1½
50¾	32½	46½	44¾	46¼	Texas Corp.	10,876,882	$25	50cQ	1-2-40	2.00	2.13	5.02	49⅝	32⅝	65½	34¾
5¾	3¼	4⅛	3⅞	4	Texas Gulf Producing Co.	888,146	N.P.	10c	12-15-39	.15	.86	.68	5⅞	2⅝	9⅝	2
11⅝	7	8½	8¼	8⅜	Texas Pacific Coal & Oil	888,236	$10	10c	12-1-39	.40	1.16	1.11	12½	7	16⅝	5⅜
14½	9½	11⅛	10½	11	Tide Water Associated	6,375,253	$10	15c	12-1-39	1.00	1.28	2.08	15⅜	10⅛	21⅝	13⅛
19¾	15⅛	17⅞	16½	17⅛	Union Oil of California	4,666,270	$25	25c	11-10-39	1.20	1.47	2.58	22½	17⅛	28⅛	17½
24¼	20⅛	23½	23¼	23¼	Union Tank Car Co.	1,177,381	N.P.	40c†	12-1-39	1.30	1.16	1.70	23½	20	31½	22
4¼	2⅜	3½	3⅜	3½	Wilcox Oil & Gas	487,568	$5	....	5-10-28		.52	.24	3½	1⅜	6¼	1⅜

†Includes extras. ‡Also 2 per cent in stock. §Also 1⅛ per cent stock dividend. ‖Also right to subscribe to bonds. ¶Also 1⅛ per cent in stock. —Deficit.

New York Curb Exchange

1939-1940 High	1939-1940 Low	Week ended Jan. 6 High	Week ended Jan. 6 Low	Week ended Jan. 6 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
11¾	5½	7⅜	7	7	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.10	—$0.22	$0.27	11¾	5	10	6⅝
7¼	2½	3¼	3	3	Bridgeport Machine Co.	270,000	N.P.	$1.25	12-30-37		—.14	1.90	10¼	4⅞	21⅜	7
34⅜	26½	28¾	28	28	Buckeye Pipe Line Co.	200,000	$50	$1	12-15-39	2.00	2.36	4.02	39	22½	51½	36
130	108⅝	112	110	112	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	12-18-39	6.50	5.32	6.73	128	97	112	95½
9¼	4¼	5	4¾	4¾	Cities Service (new)	3,704,067	$10	....	6-1-32	....	.23	1.02	11	5½	5⅝	1½
2¼	⅛	1½	1⅜	1⅜	Cosden Petroleum	462,551	$1	....	....	....	....	.19	2⅜	⅞	5½	1½
28	16¾	22¼	21⅝	21⅝	Creole Petroleum	6,975,383	$5	50cSA†	12-15-39	1.00	1.64	1.61	27½	17½	38¾	20¼
7⅛	3⅝	4¼	4¼	4¼	Darby Petroleum	351,390	$5	25cSA	1-15-39	.50	....	1.36	10¼	5½	18⅝	6½
2⅝	1½	2	1⅞	2	Derby Oil & Refining	263,162	N.P.	....	.....	....	—.91	1.34	3½	1½	8⅜	2¼
23	15⅛	..	..	..	Eureka Pipe Line	50,000	$50	50c	11-1-39	3.00	—.37	—.12	31	16	47½	24½
45⅛	29¼	39⅞	38¾	39½	Gulf Oil Corp.	9,076,202	$25	25cQ	12-15-39	1.00	1.43	3.51	46⅜	33	63½	33
71	52½	68	67	67	Humble Oil & Refining	8,987,840	N.P.	62½c	12-16-39	3.00	3.98	5.22	72⅝	56	87	54⅞
17	11⅜	12⅜	11⅞	12⅛	Imperial Oil of Canada	26,965,078	N.P.	37½c†	12-1-39	1.25	.96	.98	19½	14⅛	24¼	14½
7¼	5½	6	6	6	Indiana Pipe Line	300,000	$10	20c	11-15-39	.50	.47	1.03	9⅜	6	15	5⅞
27½	17⅝	18⅝	17¾	17¾	International Petroleum	14,324,088	N.P.	75c	12-1-39	2.50	1.98	..	31¼	21	39½	23½
3¾	2⅛	2⅝	2½	2⅝	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	.10	.14	.17	5	2⅛	8¾	2⅝
10½	7⅛	10⅝	10	10	Lone Star Gas	5,553,747	N.P.	30c	12-22-39	.60	.88	1.14	10⅜	6⅝	14¼	5¼
7¾	4	6	5¾	5¾	Louisiana Land & Exp.	2,977,449	$1	5c	12-15-39	.45	.45	.58	9⅜	6½	15¼	6¾
17	14½	..	..	..	Margay Oil Corp.	149,943	N.P.	25cQ	1-10-40	1.00	2.28	3.26	24	16	33½	17
8¾	6⅝	8	7½	7⅞	Midwest Oil Co.	998,474	$10	45c	12-15-39	1.00	.93	1.14	9¾	6⅝	14⅝	6¼
6	4⅞	5⅝	5½	5⅝	Mountain Producers	1,593,584	$10	30cSA	12-15-39	.60	.62	.76	5⅝	4½	7⅞	4⅛
14	11¼	12½	12⅛	12¼	National Fuel Gas	3,810,183	N.P.	25cQ	1-15-40	1.00	.84	.96	14⅝	11½	19½	12
9⅞	7¼	9⅞	9⅛	9½	National Transit	509,000	$12.50	50c	12-15-39	.75	.88	1.19	9¼	6½	12½	7¼
1¾	1	..	..	..	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	2⅜	1½	5	1⅛
6	4	..	..	..	New York Transit	100,000	$5	25c	10-14-39	.25	.16	.49	4½	3½	5⅜	3⅞
7	4½	6⅞	6⅞	6⅞	Northern Pipe Line	120,000	$10	15c	12-1-39	.35	.24	.78	6	4	12¾	5¾
7⅝	4	5⅜	4¾	5⅛	Pantepec Oil	2,857,000	$1	....	....	....	....	....	7¾	3½	9⅝	2¾
5	1¼	3	3	3	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.17	—.17	4½	1⅝	12¾	2
3	1⅞	2⅜	2⅜	2⅜	Ryan Consolidated	298,931	N.P.			....	.29	.46	4	2⅛	6½	2¼
4⅞	3½	4⅞	4⅞	4⅞	Southern Pipe Line	100,000	$10	15cSA	9-1-39	.30	—.27	.85	5⅜	3¼	7¼	3⅜
44	26¾	44	41	43½	South Penn Oil	1,000,000	$25	$1.87½Q†	12-15-39	1.75	1.44	4.64	39	28¾	56	35
23	17	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	50cQ	12-26-39	2.00	—.41	.95	22¼	16½	42	20
20⅜	17¼	20⅜	20	20¼	Standard Oil of Kentucky	2,604,790	$10	55c†	12-15-39	1.25	1.45	1.60	18¾	15	21⅛	14¾
32¼	17	32¼	30¼	30¼	Standard Oil of Ohio	753,740	$25	75c†	12-15-39	1.00	1.81	3.67	22¾	16¼	45	16
2¾	1⅜	2	1⅞	1⅞	Sunray Oil	2,007,076	$1	5c	12-20-39	.05	.23	.42	3¼	2	4⅞	2
4	2⅝	2⅝	2⅝	2⅝	Texon Oil & Land	936,024	$2	10c	6-30-39	.60	.56	.51	5¼	3½	7⅝	2
6	2½	3¼	3¼	3¼	Transwestern Oil Co.	750,000	$10	....	.....	....	—.12	.48	7⅝	4¼	13⅞	4⅝
3⅜	1⅝	2⅛	1⅝	2	United Gas Corp.	7,818,959	$1	....	.....	....	—.51	.25	5¼	2⅝	13⅞	3

†Includes extras. ‡Payable in Canadian funds. —Deficit.

Personal Paragraphs

T. B. HOFFER, for the past 2 years vice president and general manager of D. D. Oil Co., Mission, Tex., has resigned. He expects to remain in the valley to look after persohal interests and operate independently.

H. D. PENNEL, geologist and scout for the Amerada Petroleum Corp. in the West Texas district and recently elected president of the Midland Geological Society, has left for Lake Charles, La., where he has been transferred by the company. He will work out of Lake Charles with Houston, Tex., as headquarters. JACK CONLEY, formerly with the Amerada corporation at Corpus Christi, will assume the duties as scout and geologist in the West Texas area.

B. P. COOPER, president of the Cooper Petroleum Co., Houston, Tex., spent the holidays in Alabama.

LON CRON and E. J. GRACEY, drilling contractors of Houston, Tex., are in Cuba where one of their rotary rigs is operating for a major oil company.

R. W. GEMMER, former head of the geophysical department of the Standard Oil Co. of Louisiana, Shreveport, has been transferred to Tulsa, with the Carter Oil Co.

GEORGE HEMSTREET, assistant personnel director of the Lago Oil & Transport Co., Ltd., sailed from New York last week en route to his post at Aruba, Netherland West Indies.

J. W. COLEMAN, Wichita Falls, Tex., has sailed from New York aboard the S.S. Saturnia bound for Lisbon, Portugal, where he will assume his duties as an employe of an oil company.

A. O. OLSON, president of Olson Drilling Co., will head the drilling contractors committee for the 1940 International Petroleum Exposition May 18 to 25. He will appoint a committee representing every oil-producing state and several foreign countries.

JOHN A. BROWN, president of Socony-Vacuum Co., Inc., accepted chairmanship of the Greater New York Fund's 1940 campaign at a meeting in New York last week. This is the "community chest" organization of New York City, which last year raised $3,454,634 for voluntary welfare agencies.

JOE E. BUTLER, oil operator, was named president of the Corsicana (Tex.) Chamber of Commerce, succeding J. M. DYER.

M. J. NORELL, manager of the industrial relations department of the Magnolia Petroleum Co., Dallas, Tex., was the main speaker before the monthly meeting of the Magnolia Young Men's Club in Dallas.

F. E. HOLBROOK, secretary and treasurer of Imperial Oil, Ltd., has retired on superannuation, being succeeded by W. JOHN WHITLING, previously assistant secretary and treasurer. S. B. SCOTT, of Sarnia, succeeds Mr. Whitling. JAMES M. McGRATH has been named comptroller.

JESS SCARBOROUGH and G. O. MOODY, vice president of Mid-Continent Petroleum Corp., Tulsa, were Shreveport, La., visitors last weeks.

JERRY SADLER, member of the Texas Railroad Commission, will be the principal speaker at the twentieth annual banquet of the Electra Chamber of Commerce at Electra, Tex.

RICHARD E. GILE, district land man and geologist for the British American Oil Producing Co., stationed at Midland, Tex., has been promoted to the position of research geologist and has been transferred to the Tulsa office of the company.

C. ANDRADE, III, president of the Great State Oil Corp., Dallas, Tex., has been named chairman of a sports committee in Texas and Oklahoma to aid the Finnish relief fund. Former President Herbert Hoover, national leader, notified Mr. Andrade of his appointment.

RALPH S. POWELL, division geologist for Texas Co. at its Fort Worth, Tex., offices, was elected president of the Geological Society at its annual election. LOUIS H. FREEDMAN, geologist for Snowden & McSweeney Co., was named vice president; and VERNON LIPSCOMB, geologist for Pure Oil Co. at Fort Worth, was reelected secretary-treasurer. J. EARLE BROWN, consulting geologist of Fort Worth, was the retiring president.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

It is reported that George J. Wright, former commissioner of the Five Civilized Tribes, will be made superintendent of the Osage Agency in Pawhuska, Okla., as soon as he leaves a Chicago hospital where he recently underwent an operation. Gabe Parker has been made superintendent of the Five Civilized Tribes with headquarters at Muskogee.

Charles Irving Williams, 45, secretary-treasurer of the Crescent Pipe Line Co., dies at Bellevue, Pa.

The Bureau of Mines estimates the production of the United States in 1914 at 292,000,000 bbl., an average of 800,000 bbl. per day. Oklahoma had the greatest gain in 1914, for which the Cushing field may be given the credit.

20 YEARS AGO

Simms Oil Corp. acquires a controlling interest in the Rowe Oil Corp. paying about $4,000,000 for 367,880 shares of stock. The Rowe Oil Corp. holdings consist of 120 acres in Section 30-21-7 in the Claiborne field in North Louisiana.

Stockholders of Standard Oil Co. of Ohio have ratified the plan to increase the capital stock from $7,000,000 to $21,000,000.

There are 250 rigs up and wells drilling in the McKeesport gas field in western Pennsylvania.

10 YEARS AGO

Henry M. Ernst, 88, president of the Dempseytown Gas Co., and oldest oil and gas man in the Venango district, dies in Oil City, Pa. He had been a producer since the early 70s. He was a former partner of Theodore N. Barnsdall.

John T. Hayward has joined the Shell Petroleum Corp. at Tulsa as assistant mechanical engineer. Mr. Hayward, born in England, has had much experience in the Rumanian oil fields.

R. E. SHUTT, Shell Oil Co., Inc., Tulsa, is spending a midwinter vacation touring New Orleans, Florida, and Cuba.

M. B. SWEENEY, Dallas, Tex., executive of Sun Oil Co., seriously ill, has been confined in St. Paul's Hospital for several weeks.

LLOYD SAUNDERS, Tulsa, of the Oklahoma scouting staff of Shell Oil Co., Inc., has been transferred to the Kansas district to succeed PETE BROWN, who has returned to Tulsa.

HAROLD B. HUMPSTONE, president of the West India Oil Co., Valparaiso, Chile, sailed from New York last week aboard the Santa Barbara. He was accompanied by his daughter Joan.

C. R. HINE, general sales manager of Standard Oil Co. in Chile, left New York last week returning to his South American headquarters. He was accompanied by his daughters, Natalie and Patricia.

HENRY F. PELKEY, editor of the Standard Oil Co. of Venezuela's house organ, El Ferro, at Caracas, Venezuela, returned to South America January 5 after spending the holiday season in New York. He was accompanied by Mrs. Pelkey.

DR. J. V. HOWELL, consulting geologist of Tulsa and Mount Vernon, Ill., chairman of the arrangements committee for the 1940 convention of the American Association of Petroleum Geologists to be held in Chicago April 10, 11, and 12; has been conferring with J. P. D. HULL, business manager of the association.

RODNEY FORSYTH, district geologist of the Seaboard Oil Co., is now stationed at Evansville, Ind.

IRA MONTGOMERY, Tulsa, is now with Lago Oil & Transport Co. at Aruba, Dutch West Indies.

OLIVER C. FIELD, president of O. C. Field Gasoline Co., and Mrs. Field left Los Angeles for a vacation in Honolulu.

OSCAR HUDSON, geologist with the Midstates Oil Corp., has been placed in charge of the company's new geological and scouting office in Jackson, Miss.

GEORGE M. DUNAWAY is critically ill at his suburban home near Fayetteville, Ark. He was employed by Sinclair Prairie Pipe Line Co. for 21 years, but has been totally disabled since last February.

TOM J. SIMMONS, JR., 22-year-old son of THOMAS W. SIMMONS, recently elected president of Bolsa Chica Oil Co., has organized the Junior Oil Co. and has already started work on a well in the Montebello field.

HARLAN TAYLOR, Petty Geophysical Surveys, was the speaker at the third meeting of the Mississippi Geological Society last week at Jackson. L. R. McFARLAND, Magnolia Petroleum Co., is chairman of the membership committee.

CHARLES LANGFORD, Houston, Tex., engineer for the League City Operators Committee, was elected chairman of the Gulf Coast section of the American Institute of Mining and Metallurgical Engineers. He succeeds MIKE HALBOUTY, of the Merit Oil Corp. J. U. TEAGUE, superintendent of the Hogg Oil Co., was reelected vice chairman.

Authority on Utilities

W. Alton Jones, who last week was elected president of Cities Service Co., to succeed the late Henry L. Doherty, has the reputation of being an authority on public-utility problems. Like Mr. Doherty himself, who founded the billion-dollar oil and utility system, Mr. Jones always has been a student. He is considered one of the country's best-informed men in the field of industrial research and economics.

W. ALTON JONES

A graduate of Vanderbilt University, Nashville, Tenn., where he first became interested in the subject of utilities, Mr. Jones in 1921 went to New York from Joplin, Mo., where he had been treasurer of Empire District Electric Co., a Cities Service subsidiary. In his new post he was assistant to the late Frank Fruecauff, chief executive of Cities Service under Mr. Doherty. Upon Mr. Fruecauff's death he assumed many of the duties performed by that executive. In 1922 Mr. Jones was made a director of Cities Service. In 1925 he became chairman of the executive committee of Henry L. Doherty & Co., and 2 years later he was chosen first vice president of Cities Service.

Mr. Jones in 1929 was elected first vice president of the old National Electric Light Association, predecessor of the Edison Electric Institute, and he served as its president the next year. He is a director of the American Petroleum Institute and he holds memberships in the Lotus Club, Lawyers Club, Metropolitan Club, Engineers Country Club, and the Doherty Men's Club of Washington.

B. F. CONNOLLY, general manager of the Atlas Oil Corp., Shreveport, La., is in New York on business.

K. M. REGAN, vice president of the Salt Dome Oil Corp. at Houston, Tex., is convalescing in a Houston hospital following an operation.

JOSE OVIDIO MARTINEZ, engineer under the director-general of the Y.P.F. of Buenos Aires, who has been studying production methods in this country, is returning home.

WILLIAM PARKER of Bartlesville, Okla., vice president of Phillips Petroleum Co. and in charge of the aviation division of the company, was in California recently on a combined business and pleasure trip.

J. B. CHRISTIAN, F. C. CARPENTER and JOHN C. VANN, associated with J. R. TURNBULL, drilling contractor of Houston, Tex., have formed the Christian-Carpenter Drilling Co., and have received contract for their first well.

WALTER BITTERLING, at one time with the Standard Oil Co. of Venezuela, and more recently with Williams Brothers Co. in building a pipe line for the Gulf interests in Colombia, is now with the International Harvester Co. at Caracas.

DAVID HEGGIE, vice president of Shell Oil Co., Inc., has been elected a member of the board of directors and will maintain offices in San Francisco, Calif., at the headquarters of the company. At the same time Dr. E. F. DAVIS, formerly director of exploration work in California, was appointed manager of production and exploration and H. T. WYATT, formerly production manager, was appointed assistant manager of production and exploration.

FRED A. SCHAEFER has resigned as vice president and sales manager of Mid States Refining Co. at Joliet, Ill.

W. H. HAGER, conservation department engineer in the Cotton Valley field of Webster Parish, Louisiana, is confined to his home by illness.

O. L. CORDELL, president of Barnsdall Refining Co., has become president of Bareco Oil Co., the new name for the company chosen by the stockholders at a meeting last week.

BURTON E. ASHLEY, subsurface stratigrapher of Texas Co. in the Kansas district, presented a travelog entitled "A Rhodesian Ramble," reciting his field experience in South Africa, at the meeting of the Kansas Geological Society in Wichita, January 5.

SEN. ARTHUR CAPPER, of Kansas, demanded in the Senate that President Roosevelt order an immediate abrogation of the Venezuelan trade-agreement provision for a reduction of the import tax on crude and fuel oil. He questioned the authority of the State Department to make the reductions.

E. L. CASTER, Arkansas Fuel Oil Co. geologist, has been confined to his home in Shreveport, La., by illness.

B. A. MYERS, vice president in charge of production of Imperial Oil Co., Toronto, Ont., was a recent visitor in Tulsa. He was at one time with Carter Oil Co.

H. H. POWERS, professor of petroleum engineering at the University of Texas, Austin, Tex., was the supervisor of a radio program broadcast over a state-wide Texas network depicting the progress of deep drilling in the oil industry.

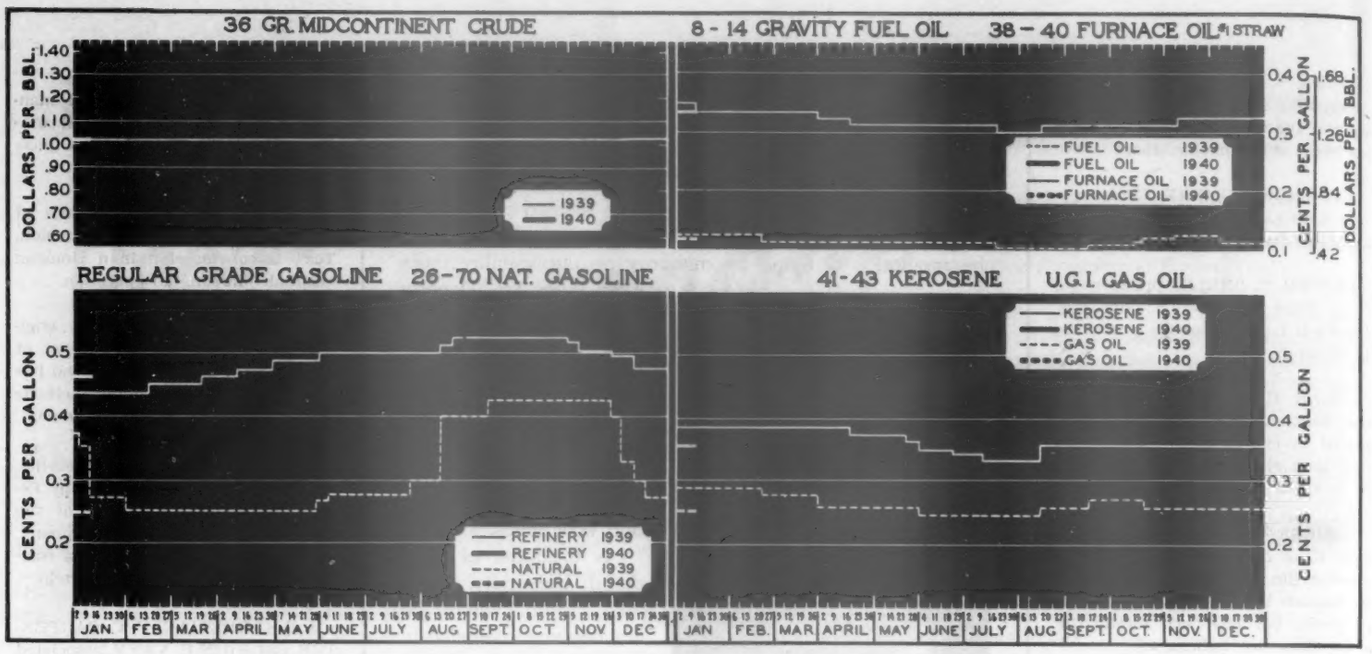
SHIFTS: MELVIN D. MAUK, geologist, Pure Oil Co., from Anna, Ill., to Olney, Ill.; S. C. McMACKIN, geologist, Oficina Del Tigre, from Ciudad Bolivar, Venezuela, South America, to Barcelona, Venezuela, South America. RICHARD E. GILE, geologist, British American Oil Producing Co., from Midland, Tex., to St. Joseph, Mo.; F. B. MOORE, superintendent, Shell Oil Co., Inc., from Pampa, Tex., to Tulsa; WAYNE COFFMAN, engineer, Cities Service Oil Co., from Russell, Kans., to Bartlesville, Okla. MARVIN A. REMKE, engineer, Carter Oil Co., from Tulsa to Effingham, Ill.

W. K. LINK, Standard Oil Co. of Louisiana, geologist, has returned to Shreveport from a vacation trip spent in Milwaukee and Chicago.

ORLEY R. WALLS, independent operator of Mattoon, Ill., was a recent visitor in Oklahoma City, where he formerly was scout for Coline Oil Co. Before entering business for himself he was in the land department of the Texas Co. in Mattoon.

E. E. FOGELSON, independent operator of Houston and Dallas, Tex., left by plane last week for New York to confer with former President Herbert Hoover, chairman of the Finnish Relief Committee, to aid in benefit sports events for Finnish relief work.

H. E. CHRISTENSEN, who has been Texas Co. district geologist at Wichita, Kans., has been transferred to Denver, where he becomes division geologist for the Rocky Mountain area. This is a promotion and a return home, as he formerly resided in Colorado. He succeeds E. H. HUNT, transferred to other duties, and is succeeded at Wichita by F. E. METTNER, a member of the Kansas geological staff.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Group 3 Refiners Who Like to Appear Cheerful Keep Eyes Off Gasoline

By T. F. SMILEY

GROUP 3 refiners who like to face the world with a smile kept their eyes off the gasoline market as much as possible this week. So long as they gazed at the burning-oil, lubricant, and wax divisions they could look cheerful and mean it, for there was unmistakable strength in all three.

Addition of 2,278,000 bbl. of gasoline in the week ended December 30, 1939, to stocks already burdening the industry was a cloud that allowed scarcely a ray of sunshine to brighten an anxious market. The 80,985,000 bbl. of gasoline with which the country closed the year compared with 71,542,000 bbl. in 1938. Of the 9,443,000-bbl. difference every gallon was in excess of consumer requirements.

More Than 2 Days' Supply

The gravity of the threat which this gain of 2,278,000 bbl. in 1 week constitutes becomes clearer when it is realized that it represents more than 2 days' supply, taking winter consumption as a basis. Mid-Continent refiners have done a good deal of pointing with pride in the past year because during most of that time their gasoline stocks were kept within economic limits while those in some other areas seemed bent on making new high records. Their self-approbation was not without basis, for at the end of the first 11 months of 1939 Mid-Continent stocks were 75,000 bbl. lower than they had been at the beginning, while total stocks had recorded a gain of 6½ per cent. In the same period Gulf Coast stocks rose 16 per cent and California's 11.

A.P.I. figures show, however, that although Mid-Continent gasoline stocks declined in the first 11 months of 1939, the final 4 weeks saw 687,000 bbl. added, a gain of 8 per cent. In the same 4 weeks total stocks increased 6 per cent.

Petroleum analysts say that at their peak, just before the opening of the next heavy consuming season, gasoline stocks should not total more than 82,000,000 bbl. Stocks are almost at that level now, and they are swelling at an alarming rate, with Mid-Continent refiners contributing substantially to their expansion.

Reports indicate that congestion of gasoline stocks at the Gulf is reaching a degree that may cause uneasiness in interior markets. No relief is yet in sight for conditions created by dislocated export and coastwise shipments. Refiners who normally ship to the Gulf are meeting difficulty now in finding outlets there, with the result that they are turning northward.

Wintry weather that gripped wide regions in the past week imparted fresh life to the heating oils, starting a stream of orders from jobbers. Marked tightening of prices was reported, and it was predicted that from now on this division of the refinery market would be kept busy.

Faintly Better Tone in Naturals

Natural gasoline dragged through another dull week, with a slight increase in business imparting a faintly better tone to the market. The Gulf usually is the most important outlet for naturals originating in Mid-Continent areas. With demand from that quarter greatly reduced by a situation that has upset ocean-shipping schedules, much material is having a hard time finding a place to go. Various refiners who have borrowed money on their motor-fuel stocks will not buy a gallon of natural that is not absolutely needed until they have moved the material stored at their plants. Scattered inquiries are received from oversea for parcels of natural to be shipped with crude. They are not of a character to brighten the export outlook materially.

Lubricating oils continued buoyant. Export demand has given extraordinary vigor to bright stocks, and there is sufficient call for neutrals to keep that department in a healthy condition. Wax showed no relaxation of the strength that has characterized it for months.

Refined Oil Market Barometer

Influenced by both freezing temperatures and disrupted ocean transportation, the fuel oils moved into much stronger position, especially on the Atlantic Coast. Gasoline, with excess inventories still rising, continued weak. Naturals displayed modest signs of improvement. Lubricating oils and wax holding their ground, with the latter increasingly hard to find.

MID-CONTINENT. Gasoline weak. Furnace oils tightening. Naturals somewhat steadier.

EAST COAST. Vigorous fuel-oil market in making. Heavy fuel scarce. Gasoline dull.

GULF COAST. Gasoline weak. Burning oils and light fuels strong. Lubricants firm.

PENNSYLVANIA. Gasoline inactive. Wax supplies difficult to find. Lubricants firm.

CALIFORNIA. Fuel-oil prices reduced. Diesel and gas oils weak. Gasoline soft.

CHICAGO. All grades of domestic fuel oil buoyant. Offerings of gasoline plentiful.

Fuel-Oil Market Developing in East Is Strongest in Years

By H. STANLEY NORMAN

NEW YORK, Jan. 8.—The strongest fuel-oil market of many years appeared to be taking definite shape in the northeastern section of the country last week. Buyers were combing the market among East Coast refiners and terminal operators attempting to locate spot supplies of both domestic and industrial fuel oils without success.

One of the most important factors in the tight eastern fuel-oil market is the current tanker rate. It was reported in New York last week that one tanker was chartered for January movement of a cargo of No. 2 fuel oil from the Gulf Coast to New York at 71 cents per barrel which is the highest coastwise rate reported paid in recent years. Even at the prevailing tanker rates, boats are still extremely difficult to locate. The shortage of tankers has not been fully explained although it is the consensus among New York observers that wartime precaution in the movement of vessels is chiefly responsible.

There has been no material improvement in the export market although inquiries were in the hands of Gulf Coast and East Coast refiners last week for two cargoes of gasoline for February loading. Refiners were cautious in bidding for the business for fear that present quotations would be underbid before the sale is finally consummated. At the same time, they were reluctant to contribute to further softening of the market, particularly on the Gulf Coast where gasoline is said to have accumulated at a more rapid rate than in other sections of the country.

A rumor was circulated in New York last week that both the French and British purchasing commissions in the United States were buying gasoline and fuel oil and storing it in facilities of both refiners and independent concerns on the Gulf. Efforts to confirm the rumors were unavailing, however, and the opinion was that such action, if taken, would have precipitated a temporary strengthening in the market.

The quotation on 65-octane gasoline most generally heard among Gulf Coast suppliers was 5¾ cents per gallon. However, it was generally believed that a firm bid of 5½ cents or possibly 5⅝ cents would attract abundant quantities of this grade of gasoline. Likewise, the quotation on 70-72-octane gasoline on the Gulf was generally given as 6 cents per gallon but it was considered likely that firm offers of 5¾ cents would be considered adequate by many suppliers.

Strength of the fuel-oil market is not confined to the East Coast. Gulf Coast refiners were reported asking 4 cents a gallon for No. 2 fuel oil which, added to the last paid tanker rate of 71 cents per barrel, makes the laid-down cost in New York approximately 5.7 cents per gallon. The tank-car price of fuel oil in the northeastern section has been moving ahead steadily with higher refinery quotations. The most recent tank-wagon advance on fuel oil was made by Standard Oil Co. of New Jersey effective December 20 in its state of New Jersey marketing territory. The advance amounted to 0.35 cent per gallon on Nos. 1, 2 and 4 fuel oil at Atlantic City and Newark, N. J. No. 1 fuel oil in tank wagons is quoted at 8.1 cents per gallon at both Atlantic City and Newark, while the price for Nos. 2 and 4 fuel oils is 7.1 cents per gallon at both points.

The New York tank-car gasoline market has shown comparatively minor fluctuation since the early part of September, largely because tanker rates have ascended in inverse ratio to the softening of the Gulf Coast market. Gasoline—65-octane and higher—which actually means that the material customarily meets 72-octane C.F.R. specifications, is available in New York at 6½ cents per gallon. Some suppliers are continuing to quote 6¾ cents per gallon for this basic grade, but there is customarily a slight advantage offered in superior quality as an attraction to hold their customers. The tank-car price for kerosene in New York and vicinity is 5.6 cents per gallon, although contract customers in the State of New York and New England can purchase kerosene under existing contracts with one supplier at 5¼ cents per gallon.

The present price of Bunker C fuel oil at New York is $1.50 per barrel and material is extremely difficult to locate. Open-market purchasers have attempted, without success, to secure spot quotations from practically all available sources. Industrial fuel oil, No. 6 grade, is currently quoted in New York at 3.6 to 3.75 cents per gallon.

Supplies of wax are increasingly difficult to locate and on most grades only one or two refiners are in position to quote in the open market. The 125-127 A.m.p. fully refined grade of wax is currently quoted in the New York spot market at 7.75 cents per pound and it was reported last week that only one refiner in the eastern Pennsylvania district was in position to offer this material. The yellow scale crude wax is offered here at 6.75 cents per pound, but as in the case of other grades, the sources of supply are strictly limited. Those refiners who are assuming wax contract obligations over the coming year are providing price adjustments at intervals of 90 days instead of the customary period of 6 months which has prevailed in the past. This departure alone from customary practice indicates that refiners in general are anticipating higher prices will prevail and are basing their terms on a shorter period as protection against inflated conditions.

A. P. I. Weekly Refinery Statistics

Week Ended January 6, 1940

	Capacity reporting (per cent)	Daily crude runs (bbl.)	Total gasoline stocks (bbl.)	Gas oil and distillate stocks (bbl.)	Residual fuel-oil stocks (bbl.)
East Coast	100.0	602,000	18,613,000	9,731,000	7,646,000
Appalachian	87.3	126,000	3,568,000	449,000	475,000
Ind., Ill., and Ky.	90.7	509,000	12,477,000	4,143,000	2,841,000
Okla., Kans., and Mo.	81.6	256,000	7,107,000	1,520,000	2,475,000
Inland Texas	50.3	95,000	1,654,000	370,000	1,748,000
Texas Gulf	90.0	783,000	12,328,000	4,437,000	5,631,000
Louisiana Gulf	97.8	111,000	2,294,000	817,000	1,034,000
N. Louisiana and Ark.	55.0	43,000	485,000	252,000	510,000
Rocky Mountains	54.2	28,000	1,157,000	143,000	417,000
California	90.0	443,000	16,589,000	9,551,000	80,345,000
Total reported	86.4	2,996,000	76,272,000	31,413,000	103,122,000
Est. unreported	.....	374,000	5,730,000	770,000	2,125,000
*Est. total	.....	3,370,000	82,002,000	32,183,000	105,247,000
*Est. total previous wk.	.....	3,445,000	80,985,000	34,184,000	106,680,000
*Jan. 7, 1939	.....	3,170,000	72,936,000	35,591,000	118,055,000

*Bureau of Mines.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ended December 30, 1939	237,742,000 barrels
Week ended December 23, 1939	236,038,000 barrels
Week ended December 31, 1938	273,024,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Gulf Coast Markets

HOUSTON, Tex., Jan. 9.—There was no change in Gulf Coast markets the past week. Gasoline stocks at coastal refineries remained high, with no changes in quotation, although existing prices were weak. Burning oils and fuel oils continued strong. No new buying was reported for these stocks, and eastern markets continued to take most of the coastal output. Movement of lubricating oils continued brisk, and prices remained firm.

Gaspe Peninsula Test Has Been Started

CHATHAM, Ont.—In Quebec Province, La Compagnie d'Exploration de Gaspe has commenced a test for oil about 30 miles west of the town of Gaspe. Indications of oil in the Gaspe Peninsula were known as early as 1836, and after the first Pennsylvania discoveries a number of tests were drilled. The Conant well, drilled in 1863, still produces small quantities of dark crude. Extensive drilling was carried on by English interests, and in 1900 a small refinery was built and connected with the field by 15 miles of 2-in. pipe. Some 58 wells were drilled, a number getting a small production; but in 1902 operations were discontinued. In 1913 an attempt to revive the field failed.

Before starting work La Compagnie d'Exploration had to construct 5½ miles of road through virgin forest. Cable-tool equipment with a diesel-drilling engine is being used, starting with 20-in. hole. A crew of 12 is employed with W. R. McMaster in charge.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of January 9, 1940

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline: Tank wag.	Gasoline: Dir. tax	Gasoline: Inc. tax	Kero. tank wag.
Chicago, Ill.	15.1	13.1	4.0	10.0
Decatur	15.1	12.1	4.0	8.5
Joliet	15.1	13.6	4.0	10.0
Peoria	15.1	12.7	4.0	10.0
Quincy	14.9	13.4	4.0	•9.8
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	12.4	4.0	‡9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	16.5	15.0	5.0	10.4
Minneapolis	16.5	15.0	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.4	5.0	10.0
Milwaukee	16.3	14.4	5.0	10.2
Detroit, Mich.	13.6	12.1	4.0	7.6
Grand Rapids	13.9	11.7	4.0	9.7
Saginaw	14.8	13.3	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	‡10.5
Indianapolis	16.8	14.3	5.0	‡10.0
South Bend	16.8	15.3	5.0	‡10.0
Fargo, N. D.	17.7	16.2	5.0	11.6
Huron, S. D.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	12.9	4.0	8.0
St. Louis*	14.7	13.2	4.0	8.0
St. Joseph	14.4	12.0	4.0	7.9
Wichita, Kans.	13.3	11.1	4.0	7.9

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off; minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective December 12, 1939, f.o.b. Chicago tank-wagon prices: Standard heater oil, 1-99 gal., 9 cents; 100-149 gal., 8 cents; 150 gal. and over, 7.5 cents. Stanolex fuel oil No. 1, 1-149 gal., 8.25 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex furnace oil, 1-149 gal., 8.25 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex Grade A, 1-399 gal., 5.5 cents; 400 gal. and over, 4.5 cents. Stanolex Grade B, 1-799 gal., 5.25 cents; 800 gal. and over, 4.25 cents. Stanolex Grade C, 1-999 gal., 4.5 cents; 1,000 gal. and over, 3.5 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Tank-wag. cons'r.	Gasoline: Dividded dir.	Gasoline: Inc. tax	Kero. tank wag.
Ohio points	16.0	15.0	5.0	•13.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Cons'r. tank car	Gasoline: Dir. tank wag.	Gasoline: Inc. tax	Kero. tank wag.
Atl'tic City, N. J.	11.6	12.7	4.0	8.1
Newark	11.6	12.7	4.0	8.1
Annapolis, Md.	13.35	14.35	5.0	9.5
Baltimore	12.75	13.75	5.0	7.5
Cumberland	14.15	16.15	5.0	10.0
Wash'gton, D. C.	11.00	12.0	3.0	9.5
Danville, Va.	14.95	17.45	6.0	12.9
Norfolk	13.75	16.25	6.0	11.0
Petersburg	14.05	16.55	6.0	11.7
Richmond	14.05	16.55	6.0	10.7
Roanoke	15.25	17.75	6.0	11.0
Charles'n, W. Va.	14.55	17.05	6.0	12.6
Parkersburg	13.85	15.35	6.0	11.2
Wheeling	14.85	16.75	6.0	12.2
Charlotte, N. C.	16.90	18.40	7.0	11.8
Hickory	17.45	18.95	7.0	12.3
Mt. Airy	17.30	18.80	7.0	12.2
Raleigh	16.65	18.15	7.0	11.5
Salisbury	16.95	18.45	7.0	11.9
Charleston, S. C.	14.75	17.25	7.0	10.6
Columbia	15.60	18.10	7.0	11.5
Spartanburg	16.30	18.80	7.0	12.2

Price basis to Esselene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gal., consumer tank-wagon price at time and place of delivery; 100,000 gal. per year, consumer tank-car price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gal. or more, consumer tank-wagon price. Single deliveries of less than 50 gal., 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less .5 cent per gallon. The above policy also applies in South Carolina effective January 23, 1939.

Discounts for kerosene, 1 cent off tank-wagon price for 25 gal. or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline: Cons'r. tank wag.	Gasoline: Net dlr.	Gasoline: Inc. tax	Kero. tank wag.
Atlanta, Ga.	21.0	18.0	7.0	8.0
Augusta	20.5	17.5	7.0	10.0
Macon	19.5	16.5	7.0	10.5
Savannah	19.5	16.5	7.0	9.0
Birmingham, Ala.	21.5	18.5	8.0	9.0
Mobile	19.5	16.5	9.0	8.0
Montgomery	22.5	19.5	9.0	11.0
Jackson, Miss.	19.5	16.5	7.0	10.0
Vicksburg	19.5	16.5	7.0	9.5
Jacksonville, Fla.	20.0	17.0	8.0	8.0
Miami	20.0	17.0	8.0	7.0
Pensacola	21.5	18.5	9.0	8.5
Tampa	21.0	18.0	8.0	8.5
Lexington, Ky.	19.5	16.5	6.0	10.0
Covington	18.0	15.0	6.0	9.5
Louisville	18.5	15.5	6.0	9.0
Paducah	18.5	15.5	6.0	9.0

Price basis to tank-wagon consumers: Effective January 4, 1937; 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline: Cons'r. tank car	Gasoline: Dir. tank wag.	Gasoline: Inc. tax	Kero. tank wag.
Philadelphia, Pa.	13.0	14.0	5.0	10.0
Pittsburgh	13.0	14.5	5.0	10.5
Allentown	13.0	14.5	5.0	10.5
Erie	13.0	14.5	5.0	10.0
Scranton*	12.5	15.0	5.0	10.5
Altoona	13.0	15.0	5.0	10.5
Dover, Del.	...	13.5	5.0	10.5
Wilmington	...	14.0	5.0	9.75

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon.

*Voluntary discount of 1 cent allowed to dealers only.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline: Tank truck	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	20.0	21.0	6.0	•17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	†13.75
Spokane	21.5	22.5	6.0	†16.75
Tacoma	20.0	21.0	6.0	†13.75

*Includes 5-cent state tax. †Include 0.25-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gal. and over, advance quantity discount extended at time of delivery, 3 cents. Service-station schedule applies on single deliveries less than 40 gal. On kerosene in tank-car, transport-truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank wagon.

March 18, 1939, split dealer discount was canceled.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline: Cons'r. tank car	Gasoline: Dir. tank wag.	Gasoline: Inc. tax	Kero. tank wag.
Albany	12.6	14.2	5.0	7.80
*Met. N. Y.: Manhat., Bronx Queens, Br'klyn Staten Island	12.7	13.7	5.0	8.00
Buffalo	13.1	14.5	5.0	7.70
Rochester	13.3	15.0	5.0	8.30
Syracuse	13.2	14.5	5.0	8.30
Boston	11.5	13.0	4.0	8.00
Portland, Me.	12.6	14.4	5.0	8.00
Manchester, N. H.	13.3	15.3	5.0	8.40
Burlington, Vt.	13.1	15.0	5.0	8.20
Spring'fld, Mass.	12.2	13.0	4.0	8.20
Worcester	12.1	13.5	4.0	8.20
Hartford, Conn.	11.9	13.3	4.0	7.90
New Haven	11.8	12.8	4.0	8.00
Providence, R. I.	11.5	13.3	4.0	8.00

*Does not include 2 per cent city sales tax, which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective February 15, 1939, the company changed its commercial consumer policy in New York and New England points for tank-wagon delivery to the following: Annual purchases 10,000 gal. and under, tank-car price plus 2 cents per gallon; annual purchases 10,000 gal. up to 50,000 gal., tank-car price plus 1.5 cents per gallon; annual purchases 50,000 to 200,000 gal., tank-car price plus 1 cent per gallon; annual purchases 200,000 gal. and over, tank-car price plus ½ cent per gallon. Private consumers pay undivided dealer price, plus 2 cents per gallon. Private consumers receiving full compartment deliveries of at least 200 gal. receive a discount of ½ cent per gallon.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wag.	Gasoline: Dir.	Gasoline: Incl. tax	Kero. tank wag.
Denver, Colo.	15.5	...	5.0	11.5
Grand Junction	17.5	...	5.0	15.0
Pueblo	15.0	...	5.0	9.0
Casper, Wyo.	17.5	...	5.0	11.5
Cheyenne	15.5	...	5.0	13.0
Billings, Mont.	18.5	...	6.0	13.0
Butte	20.0	...	6.0	15.5
Great Falls	19.5	...	6.0	15.5
Helena	20.5	...	6.0	15.5
Salt Lake, Utah	15.5	15.5	5.0	16.0
Boise, Idaho	21.1	21.1	6.0	18.0
Twin Falls	21.1	21.1	6.0	18.0
Albu'que, N. M.	17.0	17.0	6.5	10.0
Roswell	16.0	16.0	6.5	8.0
Santa Fe	17.5	17.5	6.5	10.0

*Includes city tax of 0.5 cent. †Includes state tax of 1 mill.

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Cons. tank car	Gasoline: Dir. tank wag.	Gasoline: Inc. tax	Kero. tank wag.
New Orleans, La.	15.25	17.75	8.0	‡11.0
Baton Rouge	15.25	17.75	8.0	‡10.5
Alexandria	15.25	17.75	8.0	‡12.5
Lafayette	15.00	18.00	8.0	‡11.0
Lake Charles	15.25	17.75	8.0	‡12.5
Shreveport	14.00	16.50	8.0	‡11.0
Knoxville, Tenn.	18.00	20.50	8.0	13.0
Memphis	16.00	18.50	8.0	11.0
Chattanooga	17.50	20.00	8.0	12.0
Nashville	17.00	17.50	8.0	11.0
Bristol	18.25	17.75	8.0	13.0

Essolene at dealer price less 0.5 cent per gallon to undivided dealers.

†Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gal. or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gal. at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wag.	Gasoline: Dir.	Gasoline: Inc. tax	Kero. tank wag.
Omaha	16.5	13.5	6.0	9 8
McCook	16.5	13.9	6.0	9.0
Norfolk	16.5	14.4	6.0	9.5
North Platte	17.8	14.9	6.0	10.0
Scottsbluff	18.5	15.5	6.0	11.4

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline: Tank wag.	Gasoline: Dir	Gasoline: Inc. tax	Kero. tank wag.
Texarkana, Ark.	13.0	...	5.0	7.0
Fort Smith	14.5	...	5.0	7.5
Little Rock	17.25	...	7.5	8.0
Muskogee, Okla.	13.0	12.0	5.0	7.0
Oklahoma City	11.0	...	5.0	6.5
Tulsa	12.0	11.0	5.0	7.0

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Texas

	Gasoline: Tank wag.	Gasoline: Dir.	Gasoline: Inc. tax	Kero. tank wag.
Dallas, Tex.	12.0	16.0	5.0	7.0
Fort Worth	15.0	19.0	5.0	8.0
Houston	14.0	18.0	5.0	8.0
San Antonio	14.0	18.0	5.0	8.0

Canada

3-Star Imperial Gasoline

IMPERIAL OIL, LTD.

	Tank wag.	Inc. tax	Kero. tank wag.
Halifax, N. S.	24.5	10.0	18.5
St. John, N. B.	24.5	10.0	18.5
Montreal, Que.	23.5	8.0	16 0
Toronto, Ont.	23.5	8.0	16.0
Hamilton, Ont.	23.5	8.0	16.0
Winnipeg, Man.	26.5	7.0	20.5
Brandon, Man.	28.0	7.0	22.9
Regina, Sask.	25.5	7.0	20.5
Saskatoon, Sask.	28.0	7.0	23.0
Edmonton, Alta.	25.9	7.0	20.9
Calgary, Alta.	23.0	7.0	18.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	16.2
V.M.&P. naphtha	16.5
Cleaners' naphtha	15.5
Stanisol	15.5

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Tank-Wagon Changes

Continental Oil Co. December 19 reduced dealer gasoline 1 cent in Texarkana; December 26, advanced dealer and tank-wagon gasoline 3 cents in Salt Lake City; January 3, reduced tank-wagon and dealer gasoline 1 cent in Grand Junction and Pueblo. December 19, reduced tank-wagon kerosene 1 cent in Texarkana.

Standard Oil Co. (Indiana) November 13 reduced dealer gasoline in Des Moines 1 cent; November 20, advanced tank-wagon kerosene in Mankato 0.5 cent; December 9, reduced dealer gasoline 0.7 cent in Grand Rapids; December 11, reduced dealer gasoline 0.9 cent in St. Joseph.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of January 9, 1940

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below	.03⅞	.04
63-66 octane	.04⅛	.04¼
67-69 octane	.04⅜	.04½
70-72 octane (regular)	.04⅝	.04¾
60-62 400 grades:		
62 octane and below	.03⅞	.04
63-66 octane	.04⅛	.04¼
67-69 octane	.04⅜	.04½
70-72 octane (regular)	.04⅝	.04¾
68-70 360	.04⅞	.05⅛

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.03⅞	.04
63-66 octane	.04⅛	.04¼
67-69 octane	.04⅜	.04½
70-72 octane (regular)	.04⅝	.04¾
60-62 400	.03⅞	.04

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below	.04¼	.04½
63-66 octane	.04½	.04¾
67-69 octane	no quotations	
70-72 octane (regular)	.05	.05¼

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below		.04⅝
67-69 octane	no quotations	
70-72 octane (regular)		.05⅛

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04	.04¼
63-66 octane	.04¼	.04½
67-69 octane	.04½	.04¾
70-72 octane (regular)	.04¾	.05
60-62 400 grades:		
62 octane and below	.04	.04¼
63-66 octane	.04¼	.04½
67-69 octane	.04½	.04¾
70-72 octane (regular)	.04¾	.05
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor	.04½	.05
65 octane	.06	.06¾
72-74 octane (regular)	.06¼	.06⅞

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06	.07
58-60 400, 65 oct. and higher	.07	.08

EAST COAST (domestic)—

U. S. Motor, 65 and above:		
*New York (Bayonne)	.06½	.06¾
Philadelphia	.06½	.06¾
Boston	.06¾	.07
Baltimore	.06½	.06¾
Charleston, S. C.	.06½	.06⅞

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05½	.05⅝
65-67 octane	.05¾	.06
68-70 octane	.06	.06¼

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.02½
Grade 18-55		.03

NORTH TEXAS—

Grade 26-70		.02½
Grade 18-55		.02¾

CALIFORNIA—

75-85 375-390	.05¾	.06

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.02⅝

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03½	.03⅝
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.03⅝	.03¾
46-48 gr., 210-230 l.b.p., 480-max., e.p.	.03⅞	.04¼

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅝	.03⅞
42-44	.03¾	.04

NORTH TEXAS—

41-43	.03⅝	.03¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.03½	.03⅝

ARKANSAS (Ark. and N. La. del.)—

41-43		.03⅝

PENNSYLVANIA (inland refineries)—

45	.04½	.05
46	.04⅝	.05⅛
47	.04¾	.05¼

CHICAGO (Based on Group 3)—

41-43	.03⅝	.03⅞
42-44	.03¾	.04

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04½	.05¾

NEW YORK (Bayonne, N. J.)—

41-43	.0560	.05¾

***GULF COAST (domestic)—**

41-43	.04½	.04¾

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03½	.03⅝
No. 1 prime white, 38-42	.03½	.03⅝
No. 1 straw, 38-40	.03⅝	.03½
No. 2 straw, 32-36	.03¼	.03⅜
No. 2 dark, 32-36	.03½	.03¼
No. 3 zero to 15, 28-32	.03	.03⅛
No. 3, 15 and above, 28-32	.02¾	.03

NORTH TEXAS—

No. 1 prime white, 38-42	.03½	.03⅝
No. 1 straw, 38-40	.03⅜	.03½

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03	.03⅛

ARKANSAS (Ark. and N. La. del.)—

No. 2 32-36		.03⅜

CHICAGO (Based on Group 3)—

Range oil	.03½	.03¾
No. 1 prime white, 38-40	.03½	.03⅝
No. 1 straw, 38-40	.03⅜	.03½
No. 2 straw, 32-36	.03¼	.03⅜
No. 2 dark, 32-36	.03⅛	.03¼
No. 3, zero to 15, 28-32	.03⅛	.03¼
No. 3, 15 and above, 28-32	.02¾	.03

NEW YORK (Bayonne, N. J.)—

*No. 1	.0525	.05600
*No. 2	.0510	.05375
*No. 4	.0510	.05375

*Barge deliveries ⅛ to ¼ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.70	.75
No. 6, 15 and above, 8-14	.47½	.52½

NORTH TEXAS—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.70	.75
No. 6, 15 and above, 8-14	.47½	.52½

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.70	.75

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 5, low pour point, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour point, 10-16	.60	.70
No. 6, 15 and above, 10-16	.45	.50

PENNSYLVANIA (inland refineries)—

36-40	.03¾	.04

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.15	1.25
24 plus diesel, per bbl.	1.15	1.25
24 plus diesel (bunkers)	1.20	1.35
12-16 (bunkers at tidewater)	.70	.75
10-16 (cargo lots)	.70	.75
12-17 (tank cars)	.60	.75
10-17 (high sulfur)	.55	.65
San Joaquin Valley:		
10-18 (tank cars)	.55	.70
24 plus diesel, per bbl.	1.15	1.25
San Francisco:		
24 plus diesel, per bbl.	1.35	1.40
24 plus diesel (bunkers)	1.40	1.50
10-16 (bunkers)	.75	.80

GULF COAST—

No. 2 fuel		.04¼
43-47 diesel		.04
48-52 diesel		.04¼
53-57 diesel		.04½
58 and above diesel		.04¾
Bunker C (bulk cargoes)	.95	1.00
Bunker C (bunkers)		.90

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil	.05	.0520
28-30 diesel (lighterage 6¼c per bbl.)	2.10	2.20
28-30 diesel (tank cars)	.0510	.0530
Bunker C (to ocean-going ships in N. Y. harbor)		1.50
Industrial fuel (tank cars)	.0360	.0375

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.28
150-160 D, 0-10		.25
150-160 D, 15-25		.24
150-160 E, 15-25		.24
100-110 D, 0-10		.24
Steam refined:		
600 dark green (untreated)		.08

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour point	.35	.38
15 pour point	.34	.37
25 pour point	.32	.35
Steam refined:		
600	.18	.19
650	.20	.21
600 flash	.21	.24
630 flash	.24	.27

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

0-10 pour point:		
150-3		.13
180-3		.14
180-4		.13½
200-3		.14½
200-4		.14
250-3		.16
250-4		.15½
280-3		.17
280-4		.16½
300-3½		.17½
400-3½		.18½
100-2½ paraffin oil		.07½
15-25 pour point:		
200-3		.14
200-4		.13½
250-3		.15½
250-4		.15
280-3		.16½
280-4		.16

GULF COAST—

Pale oils:		
200-3	.07¼	.07½
300-3	.07¾	.08
500-3½	.08½	.09
750-3½	.09	.09½
1,200-3½	.09¾	.10
2,000-4		.10¼
Red oils:		
200-5-6	.07	.07½
300-5-6	.07½	.07¾
500-5-6	.08¼	.08½
750	.08¾	.09¼
1,200-5-6	.09¾	.09⅝

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11⅝
700-6½ plus	.09¼	.11⅝
750-6½ plus	.09¼	.11⅝
900-6½ plus	.09¼	.11⅝

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point		.33½
10 pour point		.32½
15 pour point		.31½
25 pour point	.29	.31
200 vis. at 70° F., 3 color:		
Zero pour point		.35½
10 pour point		.34½
15 pour point		.33½
25 pour point	.32	.34

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale	.0675	.06875

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	.0675	.0700
124-126 (A.m.p.) w.c. scale	.0675	.06875

NEW YORK—

Wax in bags fully refined:		
125-127 (A.m.p.) wax		.0675
128-130 (A.m.p.) wax	.0675	.06875
130-132 (A.m.p.) wax	.0675	.0700
133-135 (A.m.p.) wax	.0700	.0725
135-137 (A.m.p.) wax	.07125	.0750
Crude scale:		
124-126 (A.m.p.) w.s.		.0675
124-126 (A.m.p.) y.s.	.0650	.0675
Petrolatum in barrels, carload lots:		
Dark green		.03½
Amber	.03⅝	.04½
Extra amber	.03⅞	.04⅛
Lily white	.06⅝	.07¼
Snow white	.07⅝	.08¼
Cream	.05⅝	.06¼

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.05
60-62 400	.05	.05¼
61-63 390	.05¼	.05½
64-66 375	.05½	.05¾

LOS ANGELES—

U. S. Motor grades:		
60-65 octane	.05½	.05¾
65-69 octane	.05¾	.06¼
Above 69 octane	.06¼	.06½

KEROSENE

GULF COAST—

41-43 prime white	.04½	.04¾
41-43 water white	.04⅝	.04⅞

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (l.c.s.) in bbl.)—

Cylinder stocks:		
600 S.R. unfiltered	.25	.26½
650 S.R. unfiltered	.27	.28½
600 flash, S.R.	.28	.30½
630 flash, S.R.	.30	.34
Bright stock:		
8 color	.40	.42

NEUTRAL OIL

200-3 color	.38	.43
150-3 color	.37	.40

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 A.m.p.		.0700
125-127 A.m.p.		.0750
128-130 A.m.p.		.0775
133-135 A.m.p.		.0850
135-137 A.m.p.		.0900
Crude scale:		
122-124 w.s.		.0650
124-126 w.s.		.0700
122-124 y.s.		.0675
124-126 y.s.		.0700

New or Improved Equipment

Receding-Die Principle Used in Ratchet-Adjustable Threader

A new 1 to 2-in. ratchet-adjustable threader, described by the manufacturer as of sound design and high-quality materials and workmanship, has been placed on the market by Toledo Pipe Threading Machine Co., Toledo, Ohio. This new threader uses the easy-operating receding-die principle, with a separate set of dies for each size of pipe, the 2-in. size being made from high-speed steel. The tubular handle is 24 in. long. It uses a separate bushing for each size, which makes for quick, positive centering on the pipe. Simple, positive adjustment for oversize and undersize as well as standard threads.

Rockwell Companies Prosper

With an extra dividend by Standard Steel Spring Co., approximately $5,000,000 was paid during 1939 to the stockholders of three companies operated under the direction of Col. W. F. Rockwell, president of Pittsburgh Equitable Meter Co. and chairman of the board of the spring company.

According to Colonel Rockwell, these profitable results can be ascribed largely to a program of scientific research and development. He has been actively engaged in consulting and development engineering since 1914.

One of the outstanding developments in the past year is Corronite, a metallic pore-free coating, offering advantages in corrosion resistance. Extraordinarily thin coatings produced by the Corronizing process are said to give effective protection against corrosion. The bond of the Corronite to the steel is so firm and the ductility of the coating so high that bending or forming does not impair the protective value. Corronizing process licenses already have been granted to large steel companies. Licensees will make investments involving millions for new equipment to utilize the process.

Here and There With Men Who Manufacture Equipment

Warner Lewis Co., 230 East Third Street, Tulsa, has been appointed stocking jobber for the complete line of the Chicago Metal Hose Corp., including bronze, steel, and stainless-steel hose and connections.

W. A. Starck, formerly consulting engineer of the Patent Works, Milwaukee, Wis., and previously chief engineer and factory manager of Badger Bumper Co., West Allis, Wis., has taken a factory management position with Young Radiator Co., Racine, Wis.

Allied Steel Products Corp. has moved its sales organization from the plant at 1407 North Peoria Avenue, Tulsa, to the Thompson Building in the same city.

"Swift" Lubricating Co., Elmira, N. Y., has appointed Perez & Helton, 1701 Commerce Street, Houston, Tex., agent for "Swift" lubricators in Texas and Louisiana.

D. C. Peterson has been made plant manager of Buda Co., Harvey, Ill., in charge of all manufacturing operations. He succeeds E. D. Conant, who recently resigned. Mr. Peterson was connected with Buda for 16 years, starting in 1918, serving as electrical engineer, plant engineer and general superintendent of production. During the past 5 years he has been with Continental Can Co.

Harold W. Stoddart has been appointed manager of the turbine well-pump division of Worthington Pump & Machinery Corp., Harrison, N. J. Mr. Stoddart graduated at Iowa State College in 1919 and joined Worthington at that time.

Dr. William A. Mudge has joined the technical service division of International Nickel Co., Inc., in New York. For the past 17 years Dr. Mudge has been superintendent of research, superintendent of the refinery, and works metallurgist at the company's Huntington, W. Va., rolling mill.

G. J. Dekker, formerly assistant manager of the Detroit district of Air Reduction Sales Co., has been appointed manager of the Oklahoma City district. He has been with Air Reduction over 20 years.

I. N. Kimsey has been named manager and R. A. Charlton assistant manager of the Akron sales division of the Mechanical Division of B. F. Goodrich Co.; J. S. Gulledge, manager of the St. Louis district, and A. M. Fiala, product sales manager of the Air-Cell division, devoted to sales of the company's new latex cushioning material.

Supply Group Starts New Year

At the first December meeting of the Oil Well Supply group of the Houston Association of Credit Men, Inc., G. B. Coleman, of Bowen Co., and A. D. Hildreth, of

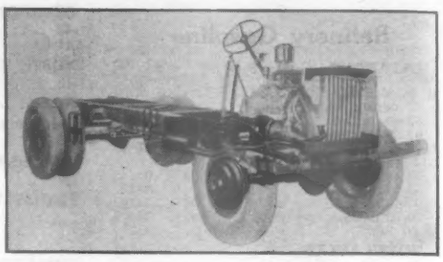
G. B. COLEMAN *A. D. HILDRETH*

Plowden Supply Co. began their duties as chairman and vice chairman respectively for the coming year.

This organization, now beginning its second year in Houston, includes the following supply and service companies: Baash-Ross Tool Co., Baker Oil Tools, Inc., Bowen Co. of Texas, Brown Oil Tools, Inc., Cavins Bailer Service, Coastal Supply Co., Cook Heat Treating Corp., Gulf Oil Co., Halliburton Oil Well Cementing Co., Houston Engineers, Inc., Humble Oil & Refining Co., Hydril Co., Hughes Tool Co., Johnston Oil Field Service Corp., Earle M. Jorgensen Co., Lane-Wells Co., Layne & Bowler Co., McCullough Tool Co., Oil Center Tool Co., Plowden Supply Co., Schlumberger Well Surveying Corp., Shaffer Tool Works, Stahlman Lumber Co., Texas Co., Texas Iron Works, Yarbrough Guns Co., Younger Brothers Truck Lines, Oliver H. Van Horn Co., Inc., General Metals Corp., A-1 Bit Co., Wessendorf-Nelms & Co., Inc., Rex Supply Co., McEvoy Co., Sperry-Sun Well Surveying Co., Eastman Oil Well Survey Co.

Marmon-Herrington Delivering 1940 All-Wheel-Drive Fords

New 1940 models of Marmon-Herrington all-wheel-drive Fords, and heavy-duty high-traction vehicles are now being delivered by Marmon-Herrington Co., Inc., Indianapolis, Ind.



In the all-wheel-drive Ford line improvements and engineering changes add to the stamina and performance of these vehicles, which include standard 1940 Ford trucks, passenger and commercial cars, converted to all-wheel-drive in the Marmon-Herrington plant in Indianapolis.

The first Marmon-Herringtons were heavy-duty trucks and truck-tractors which found ready acceptance in the oil, logging, and desert transport services where their performance in loose sand and dirt was a revelation. Now more than 30 models of these heavy-duty all-wheel-drive vehicles, improved each year, find a market at home and abroad. Following the production of the heavy-duty units, the company instituted the conversion of Ford units to all-wheel drive, and these lighter-weight, speedier, less expensive vehicles had as prompt a reception as that accorded the regular Marmon-Herrington line.

Inspiration for development of Marmon-Herrington all-wheel-drive vehicles came out of the World War. Officials of the company, then in the motor-transport service of the American forces, saw the great need, in industrial as well as military service, for vehicles which would not bog down as soon as they left hard-surfaced roads for cross-country travel and transportation. Present models of Marmon-Herrington vehicles are a direct result of these observations and experience.

Hill Appointed Manager

R. A. (Bob) Hill has been appointed manager of the Mid-Continent division of Regan Forge & Engineering Co. Mr. Hill, born in Texas, has lived in Houston since early childhood. He attended Rice Institute and has been associated with the oil industry for 20 years, having been employed in the drilling, production, pipe-line, refining and marketing divisions of various oil companies.

In 1928 he was made Mid-Continent sales representative for A. M. Byers Co. In 1931 he became division manager of Broderick & Bascom Wire Rope Co., in which capacity he remained until he joined Regan. Mr. Hill's headquarters will be in Houston.

Timken Bearings Are Adopted

Rock Island Railroad Co. recently decided to put 55 main-line steam locomotives on Timken roller bearings. Forty are freight locomotives, Type 4-8-4. Fifteen are passenger, Type 4-8-2. The Rock Island was guided by results obtained from 10 other locomotives equipped with Timken bearings 2 years ago.

LOS ANGELES NOMAD CHAPTER ELECTS OFFICERS FOR 1940

Ted Sutter, of Baker Oil Tools, Inc., was elected president of the Los Angeles, Calif., chapter of Nomads for 1940 at the regular monthly meeting. S. R. Bowen, of S. R. Bowen & Co., was chosen vice president; W. F. Bettis, of M. O. Johnson Oilfield Service, secretary-treasurer; E. M. Rees, of Fluid Packed Pump Co., assistant secretary-treasurer; E. B. Fowks, of Emsco Derrick & Equipment Co., sergeant-at-arms; and S. R. Robinson, of Yowell Service Co., assistant sergeant-at-arms. E. L. Decker, of Martin-Decker Corp., and W. F. Bettis were reelected national regents.

At the dinner following the meeting the retiring president, E. L. Decker, was presented with a key bearing the derrick emblem of the Nomads. The presentation was made by Bill Bettis, who also presented both Elmer Decker and Ted Sutter with gavels as symbols of their office.

Short talks were given by "Brick" Elliott and Abe Haglund, who recently returned from oversea trips. "Frosty" Martin told of Canadian experiences. The principal speaker was Dr. Thomas Clements, of the University of Southern California, who was introduced by John Dodge, professor of petroleum engineering at the University of Southern California.

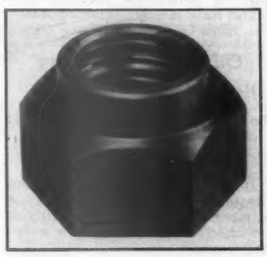
Dr. Clements illustrated his address with colored slides which showed scenes in Colombia where he recently did geological work for the Colombian Government. He told of the cooperation given by the government to him and to the oil companies.

Among the visitors from other countries attending the meeting were R. W. Carter, of B.C.O., Ltd., Maracaibo, Venezuela; Leo E. Chisholm, of International Petroleum Co., Talara, Peru; J. W. Gifford, recently from South America and now superintendent of an oil company in Long Beach, Calif.; Claude Goss, Caribbean Petroleum Co., Mene Grande field, Venezuela; H. G. Haney, recently with Mene Grande Oil Co. in Venezuela; C. D. Hendershot, of Bahrein Petroleum Co. at Bahrein Island; Bob Kuss, of Mene Grande Oil Co. in Venezuela; and Harry Webb of Caribbean Petroleum Co. at the Mene Grande field.

TED SUTTER *S. R. BOWEN* *W. F. BETTIS* *E. M. REES* *E. B. FOWKS* *S. R. ROBINSON* *E. L. DECKER*

Self-Locking Nut Is Designed to Resist Shocks and Vibration

Lamson & Sessions Co. has added a self-locking nut to its line of bolt and nut products. Designed and manufactured for industries whose fastening problems are made more difficult by shock and vibration, this nut has found numerous applications. Rock-drill, vibrating-screen and road-machinery manufacturers have found that it can be readily adapted to their products.



Simple in design, the locking action is automatic and positive and does not depend upon special threads, springs, pins or other extra parts. The locking portion of the nut consists of a raised-crown section, slotted perpendicularly to the axis of the nut. This section is distorted so as to form an elliptical ring section, resulting in an integral part of the nut, with a smaller diameter at two points diametrically opposite to the bolt or screw on which it is applied.

The nut is double heat-treated to give the crown a permanent set and tough resilient spring characteristic, upon which the locking action depends. It will remain locked in any position on the bolt.

Because of the nature of the material used, the nut can be applied repeatedly without loss of locking action and without harming the bolt threads.

Trade Literature

ALLIS-CHALMERS MANUFACTURING CO., Milwaukee, Wis.—December number Allis-Chalmers Electrical Review.

GENERAL ELECTRIC CO., Schenectady, N. Y.—Bulletin GEA-3339, Type T-27 time switches.

D. W. HAERING & CO., INC., 2308 South Winchester Avenue, Chicago.—Second edition of "H-O-H Lighthouse Reprints," giving practical information on water problems.

FOXBORO CO., Foxboro, Mass.—Bulletin, instruments for oil and gas production.

C. J. TAGLIABUE MANUFACTURING CO., Park and Nostrand Avenues, Brooklyn, N. Y.—Catalog 1100B, chemical thermometers and hydrometers.

AIR PREHEATER CORP., 60 East Forty-second Street, New York.—Catalog illustrating and describing the Ljungstrom air preheater.

WALWORTH CO., 60 East Forty-second Street, New York.—Current number of Walworth Today.

GUSTAV WIEDEKE CO., Dayton, Ohio.—Bulletin, Ideal adjustable condensers.

MACKSONS CO., 125 Cedar Street, New York.—Bulletin, Seal-Rite joint-sealing compounds for piping and industrial equipment.

CHICAGO METAL HOSE CORP., Maywood, Ill.—Bulletin SS-16, Rex-Bellows, 18-8 stainless-steel flexible tubing.

NATIONAL FOAM SYSTEM, Inc., Philadelphia, Pa.—32-page booklet describing and illustrating National Foamon fire protection.

McKENNA METALS CO., Latrobe, Pa.—Cutting speed conversion tables.

Collyer President of Goodrich

John L. Collyer, new president of B. F. Goodrich Co., whose election was recently announced by David M. Goodrich, chairman of the board, was born 45 years ago in Chelsea-on-Hudson, N. Y., and was graduated from Cornell in 1917 as a mechanical engineer. Prominently identified with the rubber industry both in the United States and abroad, he resigned as joint managing director of Dunlop Rubber Co., Ltd., England, to accept the presidency of the Goodrich company.

W-K-M ENLARGES ITS EXPORT-DISTRIBUTION PROGRAM

W-K-M Co., Houston, Tex., announces an expansion program for export distribution of its own line of products and those of other manufacturers for which W-K-M has the exclusive export distribution. At the same time the company announces it has been appointed exclusive export distributor for Hunt Tool Co. It is also exclusive export distributor for Houston Engineers' products.

In line with its export plans, W-K-M is increasing its man power for foreign representation. T. M. Smith has returned to Houston from a flying trip through Trinidad, Colombia, and Venezuela. Paul May, full-time W-K-M representative in Venezuela and Trinidad, has returned to his territory following an air trip to Houston for a conference in connection with the company's expansion program. G. M. Stewart, export manager for W-K-M, left Houston for Buenos Aires for an extended tour of Argentine fields. O. D. (Pete) Small is scheduled to leave Houston soon for an extended trip to the Dutch East Indies, visiting the fields in Borneo, Sumatra, Java, and other active oil areas.

In addition to these individual representatives, W-K-M is maintaining its export office at 74 Trinity Place, New York, established more than 15 years ago.

T. M. SMITH *PAUL MAY* *G. M. STEWART* *O. D. SMALL*

CLASSIFIED ADVERTISING

Patent Attorneys

JACK A. SCHLEY
PATENT ATTORNEY
Patents obtained — infringement practice in all Courts—oil field experience. 1807-11 Tower Petroleum Bldg., Dallas; 2014 Second Nat'l. Bank Bldg., Houston. 506 Aztec Building, San Antonio, Tex., 457 Munsey Building, Washington, D. C. Address any of these offices.

PATENTS — TRADE MARKS
All cases submitted given personal attention.
Form "Evidence of Conception" with instructions for use and "Schedules of Government and Attorney's Fees"—FREE.
LANCASTER, ALLWINE & ROMMEL
Patent Law Offices
418 Bowen Bldg., Washington, D. C.

Leases and Drilling Blocks

LEASES—East Texas, La., South Ark 20 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark.

BROKERS and SALESMEN
only
A complete SERVICE EXPERTS in every department of the Oil Business at your SERVICE a REAL SET-UP. The best opportunity ever offered you. Leases in large or small lots at
WHOLESALE PRICES
Write today and get started right.
OIL BROKERS EXCHANGE
P. O. Box 1120, Santa Fe, N. M.

SACRIFICE 40-acre Oil Lease, Chaves County, for only $10.00, full price. Guarantee title. P. O. Box 191, Clovis, N. Mex.

NEW MEXICO WEEKLY OIL SCOUT REPORT.—Send for sample copy. Roy G. Barton, Box 968, Hobbs, N. M.

FOR SALE Oil and gas leases and small production located in Kentucky shallow field, and leases located in Clay County, Tenn. Have for sale two tracts of proven Fluorspar and Zinc deposits; reports furnished on request. W. P. Harley, Bowling Green, Kentucky.

NEW MEXICO
STATE OIL AND GAS LEASES
Buy on known structures where major companies own leases. 50c per acre. 5c rentals. Write for information.
HARRY S. WRIGHT, STATE LESSEE
Wright Building
FARMINGTON, NEW MEXICO

WANT CAPITAL to invest in perpetual mineral rights in North Permian Basin in Texas and New Mexico in major company blocks on geophysical highs. Rapid development under way now. Now is the time to invest as mineral rights will be much higher after development starts on each block. Real opportunity. Address Box K-391, The Oil and Gas Journal, Tulsa, Oklahoma.

MISSISSIPPI DRILLING BLOCKS
Will give half interest in three Mississippi blocks for test well on each to the Tinsley pay, 5000 feet, unless production found lesser depth. Kemper County 24,000 acres. Leflore County 20,000 acres. Sunflower County 18,000 acres. All in the southern Upper Cretaceous Basin, the most actively exploited part of the state. Address 216 Atlas Bld., Shreveport, La.

100% OIL OPPORTUNITY—The man with cash who will back responsible party in Oklahoma City, securing and drilling shallow leases, distressed deals, etc. should make fortune. Write Box K-431, The Oil and Gas Journal, Tulsa, Oklahoma.

WANT to contact capital or parties who are in contact with capital for exploratory drilling of promising structures. Write H. C. Petersen, Rt. 5, Omaha, Nebraska.

WANTED: Good production up to 500 bbls. In any field or state. By Individual, not for brokerage. E. KAUFMAN, Box 1524, Tulsa, Oklahoma.

Leases and Drilling Blocks

EAST TEXAS Trinity sand wildcats will drill shortly Humble, Shell and Texas company blocks afford chance quick money. Leases-Royalties. E. CROFT, PROCTOR, TEXAS.

ALABAMA 14000 acres for development by reliable Co., no promotions. Well blocked and in three ownerships. 325 N. 14th St., Manhattan, Kansas.

DRILLING BLOCK for sale, leases and royalties in Hamilton County, Illinois. Write George W. Hogan, Jr., McLeansboro, Illinois.

ATTRACTIVE DRILLING BLOCK: semi-proven territory; southern Ohio; seven thousand acres; one lease; easy terms; good gas market. Will stand investigation. Box K-442, The Oil and Gas Journal, Tulsa, Oklahoma.

"Monthly Income from Natural Gas"
New development starting—Ask
Box 382
Osawatomie, Kansas.

Financing

CAPITAL SEEKERS
Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

Real Estate

PROFITABLE office building in Southern city returning very attractive revenue offered cheap. Investment around $1,000,000.00; cash $650,000.00, balance self-liquidating. Address Box K-440, The Oil and Gas Journal, Tulsa, Oklahoma.

FOR LEASE—Five to 10 years, shop now being used by Hydril Co.: two or more acres, all steel building with 15-ton crane, trackage, office building, all utilities, etc. Available March 15.
M. R. DUCEY, Owner
309 Webster, Houston, Texas

Ranches—Farm Land

6140 ACRES
Located in the heart of the blue-stem grass area in the Flint Hills of Kansas. A ranch with good reputation for fattening cattle. Owned by a group of bondholders who are anxious to liquidate this property. Ray D. Jones, 310 Ward Parkway, Kansas City, Mo.

For Sale—Maps

TEXAS and NEW MEXICO
UP-TO-DATE OIL DEVELOPMENT MAPS
Zingery Oil Map Co., Fort Worth, Tex.

R. B. ROBINSON MAPS
Jackson, Miss. 3-Hart Bldg., Across Street from Heidelberg Hotel. Ownership maps All Over Mississippi.

Situations Wanted

REFINERY DESIGNING ENGINEER, 17 years' experience. Desires change. At present employed, Chief draftsman major oil company. Address Box K-380, The Oil and Gas Journal, Tulsa, Oklahoma.

MANUFACTURERS REPRESENTATIVE
An experienced and well acquainted salesman desires additional lines to sell, in Mid-Continent Area. Commission or Salary. Box K-291, The Oil and Gas Journal, Tulsa, Oklahoma.

EXECUTIVE, Oil Well Supply, Steel fabricating, and oil experience. Broad, practical knowledge of financial, sales, production, legal and administration problems. P. O. Box 134, South Pasadena, Calif.

PETROLEUM ENGINEER—Young man, production and drilling experience on Gulf Coast. P.P.E. degree from the University of Texas. Desires position anywhere that will involve land department work along with drilling and production. Address Box K-311, The Oil and Gas Journal, Tulsa, Oklahoma.

CIVIL ENGINEER AND SURVEYOR—PIPELINES AND GENERAL ENGINEERING. Right of Way Purchasing — Secretarial Service. Have own field and office equipment. Travel to any point. Box K-433, The Oil and Gas Journal, Tulsa, Oklahoma.

ENGINEER with four years' natural gasoline experience and who has been employed as Production Superintendent the past five years handling flowing and pumping wells wants job with company or individual. Address Box K-441, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

ENGINEER with design experience in petroleum refining work, wanted. Address Box K-393, The Oil and Gas Journal, Tulsa, Oklahoma.

CHEMICAL engineer and chemist with laboratory and field experience on crude oil demulsification problems. State education, experience, age and salary requirements. Box K-432, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED
1 Operator, Cracking Experience Required, preferably Asphalt Experience.
1 Refinery Fireman.
1 Machinist.
1 Pipe Fitter.
1 Treater, Continuous and Batch.
Give experience and references first letter. Shallow Water Refining Company, P. O. Box 399, Scott City, Kansas.

Royalties

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

We buy and sell Royalties.
All offerings meet S.E.C. requirements.
CHESTER IMES
Tulsa Loan Bldg., Tulsa, Oklahoma.

WILL PAY CASH for large or small amounts of producing Royalty in West Texas and New Mexico, Mid-Continent Royalty Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

If we do not maintain a classification exactly suited to the type of advertisement you wish to run we shall be glad to create a fitting one.

Classified Department.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. O. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, more liberal. Free forms. Colonial Charter Co., Wilmington, Del.

For Sale—Geologic Surveys

FOR SALE—Geologic Surveys. Largest Stock of U. S. and State Geologic Surveys in country. Send list of wants to Cornwall's Book Store, 723 Eleventh Street, Northwest, Washington, D. C.

Legal Blanks

SINCE 1908 Burkhart's legal forms—servicing Mid-Cont. oil fields, including Ill., La., Mo., Ind. & Ky. Free catalog & samples. Burkhart Ptg. & Sta. Co., 118 So. Cinn., Tulsa, Oklahoma.

Mailing Lists

ROYALTY Lists. Oil Investor Lists. Stockholders Lists. By states. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

Survey Service

REMEMBER EAST TEXAS
When all other methods fail, employ my divining or dowsing method. If oil exists this method finds it. Faults, broken treacherous areas accurately defined. Our Watson #2, first producer Wilmington, Calif. field, located by this method. More reliable than mechanical geophysics. Ask any unbiased oil authority. Many years experience. A wise man investigates. George Miller, 1548 Post, Torrance, Calif.

CLASSIFIED ADVERTISING RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.55	$3.30
4 Lines	1.40	2.40	3.40	4.40
5 Lines	1.75	3.00	4.25	5.50
6 Lines	2.10	3.60	5.10	6.60
7 Lines	$2.45	$4.20	$5.95	$7.70
8 Lines	2.80	4.80	6.80	8.80
9 Lines	3.15	5.40	7.65	9.90
10 Lines	3.50	6.00	8.50	11.00

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Classified Display is set with a border and may be used in one or two column sizes

1 Inch	1 time	$5.00
1 Inch	13 times	4.50 per inch
1 Inch	26 times	4.00 per inch
1 Inch	52 times	3.50 per inch

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

WANTED TO BUY—STORAGE TANKS—REFINERY EQUIPMENT

We are in market for 55,000 bbl. and 80,000 bbl. Tanks. Also complete refineries and equipment or any surplus material you may have—Send us your listings.

WIRE PHONE WRITE

SONKEN-GALAMBA SUPPLY COMPANY

W. C. Berry or H. J. Galamba
Riverview at Second, Kansas City, Kansas

Robt W. Duden
2100 S. Union, Tulsa, Okla.

A Made-to-order Plant — for YOUR Business!

Ideally situated in Southern Illinois near the oil producing section, all or part of 150,000 square feet of floor space with 10 acres of ground. Connected concrete buildings with concrete floors and roofs. Completely equipped with modern heating system, automatic boiler, sprinkler system and fully wired for electric light and power. Unusual facilities for river, rail or truck transportation. For details and attractive price, write.

BOX K-410
The Oil and Gas Journal, Tulsa, Oklahoma

"Refuse Substitutes" says LUBRICATING GAS-O-LINE

AND SAVE
3 to 6c on GASOLINE.
25 to 40% Motor Expense.
Original and Genuine lubricating Anti-Knock Additive

Mixture makes cheap GASOLINE good, and high-test Gasoline better, or highest powered Gasoline on American Market. Prove it for yourself. Introductory Delivered Price 90c on $2.50 package. Responsible Dealers Wanted.
LUBRICATING GASOLINE CO., HOUSTON, TEXAS

TWO 240 H.P., 180 R.P.M., Type A, Busch-Sulzer Diesel engines, connected in tandem by a clutch, quill shaft and sheave. One engine has a belt driven 187 K.W., 220V., 2 phase A.C. generator, all in good operating condition, and can be used separately. STANARD-TILTON MILLING COMPANY—Dallas, Texas.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.

Terms to suit.

CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio

FOR SALE AT BARGAIN PRICES for cash:

In Wyoming:
1—#4 Special Buckeye Ditcher.
1—110-gallon Tar Kettle.
In KMA Texas field:
1—250-gallon Tar Kettle.
1—#36 Buckeye Ditcher.
At Odessa, Texas:
1—#4 Buckeye Ditcher.
1—Ten-Twenty McCormick Tractor with live boom.
At Oklahoma City:
1—#35 Buckeye Ditcher.
1—250-gallon Tar Kettle.
1—McCormick Deering Tractor 6-40 with live boom.
1—110-Ft. Air Compressor.

Contact
LEE CURRY, 302 Key Bldg., Phone 7-7636
Oklahoma City, Okla.

ONE 96-foot Parkersburg steel derrick with re-legs and clamps, one type J Hughes Core Barrel Complete. Hughes Petroleum Corp., 418 Olive, St., St. Louis, Mo.

FOR SALE—Seminole, Oklahoma, warehouse steel portable building 20' x 86' x 10' and 18'. I. T. I. O. Company, Bartlesville, Oklahoma.

FOR RENT: At Oklahoma City, new 7,000' string 3½" O.D. 13.3# seamless left hand fishing drill pipe with tool joints. I. T. I. O., Bartlesville, Okla.

FOR SALE: Orifice and Positive Gas Meters. GEO. R. MILNER, Okmulgee, Oklahoma.

ONLY $22.50 NET TON!
(Carload Quantities)

Tubes, Steel Condenser, Used 150 tons, 5" O. D. ⅝" x ½" walls.

Other Pipe, Flues & Tubes also available.

IRON & STEEL PRODUCTS, INC.
13412 S. Brainard Avenue,
Chicago, Illinois.

"Anything containing IRON or STEEL"

FOR SALE—$80,000.00 Rotary Rig complete. 10-in. Emsco Unit, 125-350 Boilers, etc. Practically new. Bargain. Roberts Bros., Box 1726, Houston, Texas.

FOR SALE—At Bartlesville, 10-20 McCormick Deering tractor with Shaffer front end senior Bearcat Winch; at Oklahoma City, 1—Muskogee Model "B" Skid type well service machine with PA-100 International Motor. I.T.I.O. Company, Bartlesville, Oklahoma.

FOR SALE: 12 KW 3 Phase 480 Volt G-E Generator with Switchboard and Exciter. $200.00. Geo. R. Milner, Okmulgee, Oklahoma.

FOR SALE—Heavy standard string of tools, from 18 inch down. No junk dealers. P. O. Box 401, Sapulpa, Oklahoma.

REFINERY FOR SALE—complete 3000-bbl. refinery, cracking and skimming plant, practically new, dismantled and ready for shipping, at sacrifice price. Louisiana Iron and Supply Co., Phone LD 21, Longview, Texas.

SULLIVAN P2 Steam Diamond Drill with approximately 2400 feet 2½" drill pipe and assortment of tools. Equipment in bad shape due to rust. Cost new about $13,000. For sale as is, Houston, Texas, $1,500.00. Humphreys Investment Co., 910 First Natl. Bank Bldg., Denver, Colo.

WE buy and sell machine shop equip't. Write Barrett Machinery Company, Box 4516, Oklahoma City, Okla., for stock list.

FOR SALE: Complete 2-speed American steam rotary drilling rig with 4,000 feet of drill pipe. This rig can be purchased at a sacrificed price. Also G. E. drilling motor 15-35 h.p. complete with speed controls. Address Hightower Oil & Refining Corporation, Box 830, Brownwood, Texas.

FOR SALE

10,000 Ft. 7", 24# seamless casing, once run
5,000 Ft. 7", 26# seamless casing, once run
10,000 Ft. 2½" seamless tubing, used for flowing wells only
10,000 Ft. 8" line pipe
10,000 Ft. 6" line pipe
10,000 Ft. 2½" line pipe

Also the above is threaded and collared, strictly No. 1, located in Shreveport, Louisiana.

We also have 30,000 Ft. of 6" screw line pipe in Oklahoma.

Wire, Write Or Phone for Prices

Louisiana Iron & Supply Co.
Shreveport, Louisiana

Equipment Wanted

WANTED immediately carload 6⅝, 19 lb. casing. State condition, price, where located. Reserve Gas Co., Alden, N. Y.

Business Opportunities

ENGINEER DESIRES capital to erect mill on gold property, Arizona. H. L. Zebold, 1470 Las Lunas, Pasadena, Calif.

Wanted

WANTED
FROM PRINCIPALS ONLY
Crude Oil—Diesel Oil—Bunker C
Aviation and Motor Gasoline for Export.
JOHN PAUL GIBSON
522 Fifth Avenue New York City.

Texas Wildcats

(Continued from Page 92)

Sec. 143, Blk. 1, H.&T.C. Sur.; 6,000-ft. test. S.S.O. 4,395-97 ft.; drlg. 4,428 ft.

FLORIDA

Dade County

Wm. G. Blanchard et al's No. 1 Everglades. 200 ft. E, 100 ft. N, SE cor Sec. 31-53s-35e. Arng. spud.

GEORGIA

Clinch County

Georgia Resources, Inc.'s No. 1 Gillican Dist. 4. Set 12-in. csg. 325 ft.; drlg. 400 ft. gr. sh.

MISSISSIPPI

Hinds County

Crescent Oil Mill's No. 1 fee, E side Mill St., fire zone No. 3, City of Jackson, Sec. 3-5-1e. R.U.

Itawamba County

G. C. Grasty et al's No. 1 Ky. Lbr. Co., 1,320 ft. E, 660 ft. S, C Sec. 7-10s-10e. Twisted off D.S.; skd. 24 ft. S and spd.; set 10¾-in. csg. 170 ft.; S.O. 1,500 ft.; T. Trenton L. 1,690 ft.; T.D. 1,794 ft.; resumed drlg. with C.T.

Issaquena County

Germany, Lucy & Fair's No. 1 Mohanna, E½ SW Sec. 9-18n-3e. M.I. rig.

Jefferson Davis County

F. E. Courson et al's No. 1 L. J. Bailey, 330 ft. SW cor. SW NE Sec. 4-6n-18w. Set 8⅝-in. csg. 932 ft.; drlg. sdy. sh. 1,611 ft.

Kemper County

M. R. Crabb et al's No. 1 W. T. Caldwell, NW SE Sec. 25-9n-15w. 10¾-in. csg. 86 ft.; set 6-in. csg. 1,320 ft.; T.D. 1,640 ft.; acid. with 1,000 gal.; arng. bail.

Lamar County

Miss.-La. Oil Synd.'s No. 1 Simmons, 1,020 ft. N, 56 ft. W, SE cor. NE Sec. 32-3n-14w. S.D. 920 ft. (cor. T.D.).

Lauderdale County

B. F. Meiat's No. 1 Lockard, SW SW Sec. 26-7n-15e. M.I. drk.

Monroe County

Willmut G. & O. Co.'s No. 1 Robert NW¼ Sec. 18-13s-17w. Cg. hd. sd. 2,506 ft.

Sharkey County

Chas. W. Crader's No. 1 D. D. Wells 600 ft. N, 860 ft. W, SE cor. NW Sec 27-12n-7w. T. chalk 3,423 ft.; S.D., fuel.

Eureka Pet. Co.'s No. 1 W. H. Cooper, 1,980 ft. S, 660 ft. W NE cor. Sec. 13-14n-6w. Loc.

Ralph E. Fair's No. 1 W. B. Houston est. NE NE Sec. 12-10n-7w. Set 10-in. csg. 854 ft.; T. Sparta 710 ft.; T. Wlx. 1,555 ft.; drlg. sh. 3,010 ft.

Yazoo County

Conroe-Wilcox's No. 1 Stubblefield, Sec. 25-12-1w. Set 10¾-in. csg. 1,373 ft.; T. Wlx. 1,760 ft.; S.D. fuel; cor. T.D. 5,605 ft bl. sh.

Harry Hanbury et al's No. 1 Brooks, SW Sec. 17-10-2. Loc.

Hassie Hunt's No. 1 J. C. Johnson, C SE SE Sec. 11-10-3. Stevens sd. 4,773-92 ft., oil, rng. 7-in. csg.

Hassie Hunt's No. 2 J. C. Johnson, C NE SE Sec. 11-10-3. Drlg. bl. sh. 3,749 ft.

Hassie Hunt's No. 1 Ida Fair, C NE SW Sec. 13-10n-3w. Drk.

Hill & Hill et al's No. 1 Kinkead Plantation, 1,796 ft. SE cor. NE¼ Sec. 31-11-3. R.U.

Edgar Johnson et al's No. 1 Broomfield, SE SE Sec. 2-10-3. Set 10¾-in. csg. 1,471 ft.; T. Wlx. 1,760 ft.; T. Midway 3,763 ft.; T. chalk 4,655 ft.; Woodruff sd. 4,810-25 ft.; D.S.T. 4,800-32 ft.; using ⅝-in. cks. top and bttm rec. 3,700 ft. oil. no wtr., in 11 min.; W.P. 7 lb.; set 5½-in. csg. 4,801 ft.; W.O.C.

Jones & O'Brien's No. 2-B Stevens, C NW SW Sec. 12-10-3. 10¾-in. csg. 1,503 ft.; Wdrff. sd. 4,396-4,405 ft.; T.D. 6,134 ft.; set 7-in. csg. 4,499 ft. to perf. 4,395-4,404 ft.

Plains Prod. Co.'s No. 1 Milner, 546 ft. N, 660 ft. E. SW cor. SW SW Sec. 10-2. Set 10¾-in. csg. 1,470 ft.; cd. 4,924-70 ft., sd., sh.&L.; D.S.T. 4,860-4,970 ft.; ¾-in. cks. T. and bttm.; rec. 360 ft. mud, 90 ft. mud and oil, 430 ft. oil, 630 ft. oil and S.W.; est. 75% oil and 1,000 ft. oil and S.W.; est. 25% oil; ran Schlum. 4,970 ft.

Plains Prod. Co.'s No. 2 Milner, 660 ft. E, 1,980 ft. N SW cor., Sec. 7-10-2. T. Wlx. 1,789 ft.; T. Midway, 3,893 ft.; T. chalk 4,769 ft.; Woodruff sd. 4,903-70 ft.; drlg. 5,291 ft.

Union Prod. Co.'s No. 2 Perry, C NE NW Sec. 24-10-3. Set 16-in. csg. 65 ft.; 10¾-in. csg. 1,518 ft.; drlg. ahead.

Union Prod. Co.'s No. 1 Stevens, C NW NW Sec. 13-10-3, O.W.W.O., O.T.D. 6,112 ft. P.B. 4,973 ft.; set 1st retainer 1,820 ft.; perf. 4,808-10 ft.; 2nd retainer 4,898 ft.; W.O. csg. to recomp.; made oil and S.W.

Union Prod. Co.'s No. 2 J. Stevens, C NW NE Sec. 13-10-3. 10¾-in. csg. 1,499 ft.; set 7-in. csg. 4,487 ft.; comp.; 366 B.P.D.; ¼-in. ck.; casing pressure 0 lb.; tubing pressure 135 lb.; Woodruff sd. 4,504-25 ft.; T.D. 4,561 ft.

Union Producing Co.'s No. 3 Stevens, C NE NW Sec. 13-10-3. 10¾-in. csg. 1,466 ft.; drlg. sh. 2,226 ft.

Union Prod. Co.'s No. 4 Stevens, C SE SW Sec. 12-10-3. R.U.

Union Prod. Co.'s No. 4 Woodruff, C NW SE Sec. 13-10-3. 10¾-in. csg. 1,502 ft. (cor.); D.S.T. 4,700-24 ft.; rec. 2,000 ft. oil in 10 min.; ⅝-in. ck. T.&B.; Woodruff sd. 4,698-4,744 ft.; set 7-in. csg. 4,795 ft.; perf. 4,694-4,723 ft. and 4,728-43 ft.; ran 2½-in. tbg. 4,710 ft.; comp. 594 B.P.D.; ¼-in. ck.; casing pressure 220 lb.; tubing pressure 280 lb.

Yazoo Refinery, Inc.'s No. 1 Frank Brooks, W½ SE NW Sec. 17-10-2w. Set 16-in. csg. 118 ft.; prep. resume drlg.

CRUDE-OIL PRICES IN REPRESENTATIVE FIELDS

Complete crude-price schedules are now being published in the first issue of each month. The last complete schedule was published in the January 4 issue. All changes in crude-oil-price schedules will be published completely in the first issues following the announcement of the changes. Following are representative crude-price schedules in barrels (42 gal.):

East Texas	$1.10
Conroe	1.27
Tepetate, Louisiana	1.03
Smackover, Arkansas, heavy	.73
Illinois basin	1.05
Pecos County, Texas	.78
Lance Creek, Wyoming	.77
Bradford, Pennsylvania	2.75

Gravity Schedules

Top prices include all gravities above grades designated, and low prices include all gravities below grades designated:

	Signal Hill, California	Oklahoma, Kansas	Gulf Coast Texas
14-14.9	$0.80	....	....
15-15.9	.80	....	....
16-16.9	.80	....	....
17-17.9	.80	....	....
18-18.9	.80	....	....
19-19.9	.82	....	$0.86
20-20.9	.85	$0.70	.88
21-21.9	.88	.72	.90
22-22.9	.92	.74	.92
23-23.9	.95	.76	.94
24-24.9	.99	.78	.96
25-25.9	1.03	.80	.98
26-26.9	1.06	.82	1.00
27-27.9	1.10	.84	1.02
28-28.9	1.14	.86	1.04
29-29.9	1.17	.88	1.06
30-30.9	1.21	.90	1.08
31-31.9	....	.92	1.10
32-32.9	....	.94	1.12
33-33.9	....	.96	1.14
34-34.9	....	.98	1.16
35-35.9	....	1.00	1.18
36-36.9	....	1.02	1.20
37-37.9	....	1.04	1.22
38-38.9	....	1.06	1.24
39-39.9	....	1.08	1.26
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